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ORGANIZATIONAL CAPACITY TO ABSORB EXTERNAL KNOWLEDGE:
AN EXPLORATORY STUDY OF PUBLIC AND NONPROFIT
DECISION MAKERS' PERCEPTIONS OF IMPEDIMENTS AND FACILITATORS

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at Virginia Commonwealth University

by

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Abstract

ORGANIZATIONAL CAPACITY TO ABSORB EXTERNAL KNOWLEDGE: AN EXPLORATORY STUDY OF PUBLIC AND NONPROFIT DECISION MAKERS' PERCEPTIONS OF IMPEDIMENTS AND FACILITATORS

By Linda S. Birtley, Ph.D.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2011

Chair: Kevin W. Allison, Ph.D., Professor,
L. Douglas Wilder School of Government and Public Affairs
and Department of Psychology, College of Humanities and Science

Research indicates that many youth-serving agencies do not adopt evidence-based innovations in the field of youth violence prevention. This qualitative study was designed to explore a sample of community-based decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are, or are not, adopted at the local level. The rationale for this study was that knowledge of evidence-based innovations in youth violence prevention originates primarily from research scientists who are external to the organizations that are the intended recipients of the innovations. Prior research has not viewed the failure to adopt evidence-based innovations from the perspective of the impediments and facilitators of recipient organizations' capabilities of understanding the value of and acquiring the new external knowledge.

This research study used interviews from a purposefully selected sample of 28 decision makers in public and nonprofit organizations with youth-serving missions located in three urban cities. These interviews constituted a secondary data set for this study and were drawn from a

larger set of 38 interviews after a review for suitability. The learning process model of absorptive capacity was used as an a priori framework for the analysis of the interviews. This model recognizes the influences of environmental conditions, knowledge characteristics, learning relationships, mental models, structures and processes, and strategies on the organizational capability to absorb new external knowledge.

This study revealed that environmental conditions were a key impediment to the acquisition of new evidence-based knowledge for use in the adoption of YVP programs. Key findings were a lack of issue leadership and strategy at the local level and unstable funding for agencies' core and non-core programs, such as YVP efforts. A second set of key findings demonstrated that mental models were facilitators and impediments. A high value was placed on YVP as an issue area, but the expectation was that YVP programs require external funding. Decision makers also defined program success differently than prevention scientists.

Recommendations are offered for prevention science researchers to increase the likelihood that innovations in YVP will be discovered and utilized by practitioners.

Chapter 1: Introduction

The connection between thought and action, theory and practice, demands that those of us who think and those of us who write share a moral obligation with those who act in public organizations. (Denhardt, 2004, p. xii)

The problem that prompted this research study is that many youth-serving agencies at the local level do not adopt innovative, evidence-based programs and practices for the prevention of violence by youth. Organizations that deliver violence prevention services for youth are not acquiring and applying the new knowledge generated by prevention science researchers (Flaspohler, Duffy, Wandersman, Stillman, & Maras, 2008). This research study explored a sample of community-based decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are or are not adopted at the local level. The absorptive capacity model developed in the strategic management literature was used as the guiding framework. This introductory chapter presents the following eight sections: (1) context, (2) problem statement, (3) research purpose, (4) research questions, (5) research approach, (6) assumptions, (7) the researcher, and (8) rationale and significance.

Context

In *Theories of Public Organization*, Richard Denhardt proposes that “issues of knowledge acquisition lie at the heart of administration” (2004, p. 2). For public and nonprofit organizations, new external knowledge often originates in a research environment that is upstream from the intended consumers (e.g., policy makers, decision makers, practitioners,

customers, and clients). Researchers working in government and philanthropic organizations, primarily at the national level, and in public and private universities create and disseminate knowledge about innovative, evidence-based programs and practices relevant to organizations that provide health and human services. Public and nonprofit organizations that offer programs to prevent the perpetration of violence by youth are examples of health and human service provider organizations that can benefit from new, external knowledge. The new knowledge that is of potential benefit to these organizations covers a wide range. This range of needed knowledge includes:

- Conceptual models to guide planning (e.g., a community-level social change model);
- Social marketing campaigns for influencing behavior (e.g., “just say no” to drugs);
- Program services that target a specific sub-population (e.g., parents of youth aged 13-17 in inner city high schools); and
- Information and data access systems for particular subgroups (e.g., knowledge portals for practitioners).

Public and nonprofit organizations that deliver programs aimed at preventing violence by youth operate in complex environments and address complex problems. An important environmental complexity is their dependence upon external sources of revenue to achieve their missions.

Government’s primary source of revenue is taxation, and nonprofits’ primary sources of revenue are fees and government funding (Salamon, 1999). This dependency influences the availability of resources to invest in knowledge related activities, such as building a capacity for collecting and analyzing information about client needs, projecting shifts in client demographics and service needs, researching new or alternative service delivery strategies, and evaluating existing services or programs.

Another environmental complexity is the multiplicity of stakeholders in the operating environments of public and nonprofit organizations (Bryson, 1995). The external stakeholders for government agencies include:

- Governing body, political parties, interests groups, and other governments;
- Citizens, taxpayers, service recipients, and future generations of these stakeholders; and
- Media, financial community, unions, suppliers, and competitors (1995, p. 72).

Key external stakeholders for nonprofit organizations include:

- Governing boards, donors, contractors, service recipients, and volunteers; and
- Government, interest groups, coalition or network members, and competitors.

Paid personnel are also stakeholders for both organizational types. All of these stakeholder groups have different and competing roles, perspectives, priorities, political power, and financial resources. Stakeholders influence the strategies of decision makers in public and nonprofit organizations in knowledge related activities such as which donors and funding streams to pursue, which new programs to develop or existing programs to sustain, and with which organizations to align for knowledge acquisition and/or sharing or collaborative activities.

Community health issues, such as youth violence prevention, involve another layer of complexity for both public and nonprofit organizations. Policy makers, decision makers, and practitioners in public and nonprofit organizations are engaged in knowledge intensive work when they contemplate how to address complex social problems. Individual and social environmental factors are important to the success of interventions that aim to change behavior (McLeroy, Bibeau, Steckler, & Glanz, 1988). Four levels of social environmental factors influence behavior change and are critical in planning sustainable community change:

- Interpersonal: family, friends, peers

- Organizational: policies, procedures, informal structures, environment
- Community: norms, social networks, standards, practices
- Public policy: laws, regulations, policies (Lewis, 2008)

Public and nonprofit organizations that provide, or contemplate providing, intervention programming in areas such as the prevention of youth violence are faced with a complicated array of knowledge related decisions. Decision makers within these organizations are faced with choices about which knowledge areas to pursue (e.g., which intervention strategy for which segment of the population) and how to gain the needed knowledge (e.g., develop the skills and expertise internally or contract with an outside organization to augment a portion of the needed knowledge). These choices are critical in delivering programs to reduce the prevalence of youth violence.

The consequences of violence committed by and against youth are serious. Such violence affects the physical and mental health of the youth and impacts families, schools, and communities. According to the U.S. Department of Justice, Federal Bureau of Investigation's Uniform Crime Report (2010), in the United States there were 102,441 juveniles arrested in 2009 for serious violent crimes against persons (Part I Index crimes of murder and non-negligent manslaughter, forcible rape, robbery, aggravated assault). Of these arrests, 27% were of juveniles under the age of 15. Of all violent crimes cleared by arrest by law enforcement, 10% involved juveniles. Juveniles are also victims of violent crimes. Of all murders committed in 2009, 10% of the victims were younger than 18 years old. Of the 1,277 juveniles murdered, 39% were under the age of five. The problem of youth violence also includes acts perpetrated by and against youth that are less severe than these index crimes. As defined by the Centers for Disease Control and Prevention (CDC), youth violence is:

- Interpersonal behavior
- With an intentional use or threat of use of physical force or power
- Against another individual or group or community
- Involving an individual between the ages of 10 and 24 and
- Resulting in or likely to result in injury, death, psychological harm, maldevelopment, or deprivation (CDC, n.d.).

Lesser violent offenses involving youth include bullying, intimidation, and assault.

There are evidence-based prevention programs for youth violence at the community level and the organizational level, and these programs are listed and described on searchable websites¹ for practitioners, policy makers, and researchers. The online National Registry of Evidence-based Programs and Practices (NREPP), sponsored by the Substance Abuse and Mental Health Services Administration in the U.S. Department of Health and Human Services, defined “evidence based” as:

Approaches to prevention or treatment that are based in theory and have undergone scientific evaluation. "Evidence-based" stands in contrast to approaches that are based on tradition, convention, belief, or anecdotal evidence. (NREPP, n.d.)

A problem is identified and potential interventions are tested using scientific methods and data. Innovation in youth violence prevention refers to information or knowledge about programs, policies, processes, or principles that could be of use but is new to the potential users (Saul, Wandersman, Flaspohler, Duffy, Lubell, & Noonan, 2008). Saul defines these knowledge areas as follows:

- Programs: specific sets of strategies and actions that can be implemented to prevent violence

¹ Federal government offices such as the Centers for Disease Control and Prevention and the Substance Abuse and Mental Health Services Administration in the U.S. Department of Health and Human Services are examples of national organizations that provide searchable websites of best practice evidence-based programs in the field of youth violence prevention.

- Policies: laws, regulations, rules, or understandings adopted on a collective basis to guide collective or individual behavior thought to prevent violence
- Processes: systematic ways of guiding planning, implementing, evaluating, and sustaining violence prevention efforts
- Principles: qualities of prevention programs that are thought to make them more effective (2008, p. 166)

Agencies that deliver programs to prevent youth violence typically rely upon external entities² for knowledge of innovations in evidence-based programs and practices because their own focus is on service delivery, not research. Government, foundations, and funding intermediaries encourage the adoption and evaluation of evidence-based programs, policies, processes, and principles through their grant-making strategies (Flaspohler et al., 2008; Wandersman, Imm, Chinman, & Kaftarian, 2000).

There is a pressing, national concern that organizations that deliver violence prevention services for youth are not acquiring and applying the new knowledge generated by prevention science researchers (Wandersman et al., 2008). This widespread knowledge acquisition and use gap exists in spite of the growing accumulation of sound prevention research, the efforts by researchers to translate and disseminate this new knowledge, and funder encouragement to adopt evidence-based programs and practices. Comprehensive, critical reviews of studies that address the research-to-practice gap point to the strong influence of the evidence-based medicine tradition (Canadian Health Services Research Foundation, 2000; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Mitton, Adair, McKenzie, Patten, & Perry, 2007; Sudsawad, 2007). This tradition, which focuses on the spread of best practice in managing

² Research in this specialty, at the national government level, is conducted by agencies such as the Office of Justice Programs in the U.S. Department of Justice and the Centers for Disease Control and Prevention, the National Institutes of Health, and the Office of the Surgeon General in the U.S. Department of Health and Human Services. Private philanthropic organizations that conduct research in youth violence prevention include the Annie E. Casey Foundation and the Robert Wood Johnson Foundation.

diseases and symptoms, intends to change the behavior of individual clinicians (Greenhalgh, Robert, Macfarlane, et al., 2004).

With the focus on changing clinician behavior, potential adopters were treated as a homogenous group who needed facts to reduce uncertainty (Lomas, 1997). New knowledge about evidence-based programs and practices typically resulted from questions and methods of investigation formulated by researchers, not by policy makers, decision makers, or practitioners in the adopting organizations (Canadian Health Services Research Foundation, 2000; Lomas, 1997; Mitton et al., 2007). The new knowledge resulting from controlled scientific studies was “pushed” by researchers to potential consumers after the research study was completed. As the research-to-practice gap persisted, it was acknowledged that the “assumptions underpinning evidence-based medicine may not translate directly to the work of managers and decision-makers” (Canadian Health Services Research Foundation, 2000, p. 2).

In health policy and prevention research, two approaches developed in response to the limitations of the research-to-practice model. The first alternative is a knowledge transfer and exchange³ (KTE) between researchers and potential users of the new knowledge. A key assumption is that participation in shaping the research agenda will increase the likelihood of acquisition, adoption, and implementation of new knowledge. Mitton et al. (2007) conducted an extensive review of KTE studies, identifying individual level, organizational level, communication, and timing factors that either facilitated or were barriers to successful knowledge transfer and exchange. They concluded there is a lack of evidence to guide

³ Mitton et al. (2007) point out that the use of different terminology in health-related literatures makes it difficult to define knowledge transfer and exchange in health policy. Knowledge translation (KT) is an important concept used in healthcare and health promotion (Canadian Health Research Foundation, 2000; Sudsawad, 2007). KT also involves moving evidence-based knowledge into use by focusing on making the research available and understandable to consumers (e.g., policy makers, decision makers, practitioners, and patients).

researchers in matching an appropriate KTE strategy to a particular health policy decision-making context and expressed concern that perhaps KTE, too, rested on assumptions drawn from the clinician-as-adopter model that are inappropriate in health policy decision making.

“Decisions at the policy level do not fit into neat little boxes that can be informed by technically oriented inputs” (Mitton, et al., 2007, p. 757). The authors recommend that health policy researchers in KTE broaden their studies to understand the decision makers’ operating environments and whether and how research informs a given policy.

A second alternative to the research-to-practice model is the community-centered model. In the community-centered model, the focus is on understanding the local community context. The expectation is that practice improvements or innovations require adaptation in order to meet local needs. In this approach, the local community has a voice in expressing community needs and in identifying its resources and capacities. A key assumption is that community participation drives the selection and adaptation of an innovation or practice improvement. Evidence of what elements of community capacity predict successful innovation implementation is unclear, and researchers recommend focusing future studies on the capacity of community organizations to acquire and use new prevention knowledge (Flaspohler et al., 2008; Wandersman et al., 2008). The rationale is that organizations that deliver prevention programming are essential to community capacity; therefore, the capacity of community organizations to acquire and apply new knowledge is critical.

In considering the capacity of community organizations, Flaspohler et al. (2008) searched empirical studies for individual-level and organization-level factors related to successful innovation implementation. They identified three innovation-specific individual-level capacities from the empirical studies:

- Understanding/knowledge of innovation and the problem,
- Perceived capacity to implement the innovation, and
- Buy-in/attitude toward the innovation (2008, p. 187).

Organizational innovation-specific capacities identified from empirical studies were:

- Fit with other organizational characteristics, such as mission and internal capabilities;
- Support demonstrated by administration with resource commitment;
- Buy-in internally and community credibility;
- Training and technical assistance for pre-service, in-service, and ongoing coaching; and
- Evaluation capacity for assessing effects and monitoring (2008, p. 188).

What is lacking in the violence prevention literature is a framework that incorporates individual, organizational, and environmental factors to further our understanding of public and nonprofit acquisition and use of new knowledge. The concept of absorptive capacity, initially developed in the strategic management literature (Cohen & Levinthal, 1989, 1990), is recommended for exploration in youth violence prevention (Flaspohler et al., 2008) and other health-related literatures⁴ as an important potential approach to bridging the tenacious gap between research and practice. In the strategic management literature, absorptive capacity encompasses four organizational capabilities—acquisition, assimilation, transformation, and exploitation of new, external knowledge—that are influenced by individual, organizational, and environmental factors (Lane, Koka, & Pathak, 2006).

⁴ In the last five years, absorptive capacity was identified as an important organizational factor by researchers in mental health and substance abuse treatment (Knudsen & Roman, 2004; Racine, 2006; Schoenwald, et al., 2008; Taxman & Kitsantas, 2009) and, more broadly, healthcare services delivery (French, Thomas, Baker, Burton, Pennington, & Roddam, 2009; Greenhalgh, Robert, Macfarlane, et al., 2004).

The early consideration of absorptive capacity in youth violence prevention is narrower than its development in the management literature. This study will explore the utility of the absorptive capacity model in understanding the factors that influence whether innovative programs or practices are, or are not, adopted in the delivery of youth violence prevention. The value of the absorptive capacity conceptual model in understanding why innovations are, or are not, adopted by an organization is threefold:

- It is a knowledge-based perspective that takes into account the types of knowledge needed and possessed by the organization;
- It incorporates individual-level and organizational factors, recognizing the importance of organizational members' knowledge and mental models on strategies for acquiring and using new knowledge; and
- It situates the organization in its larger context, recognizing the influence of environmental conditions and external learning relationships.

The absorptive capacity model is examined in detail in Chapter 2.

Problem Statement

Many youth-serving agencies at the local level do not adopt innovative, evidence-based programs and practices for the prevention of violence by youth.

Research Purpose

The purpose of this research was to explore a sample of community-based decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are, or are not, adopted at the local level.

Research Questions

I proposed two research questions to focus my study of why evidence-based programs or practices for the prevention of violence by youth are, or are not, adopted:

1. How do decision makers describe the decision process to adopt or not adopt new programs for youth?
2. What factors do decision makers perceive to be impediments or facilitators to the adoption of new programs for youth?

Research Approach

Denhardt (2004) underscores the importance of understanding the frames of reference of practitioners, and the self, to reduce the gaps between theory and practice in public organizations. Ritchie (1994) notes that qualitative methods in public policy emerged in the early 1970s in part to meet the demand for understanding complex needs and systems, and Maxwell (2005) advises us that qualitative methods are most appropriate for exploring perspectives on meaning and context. This qualitative study examined the perspectives of decision makers in public and nonprofit organizations to answer the two research questions listed above.

In this exploratory study, I used the absorptive capacity model (Lane et al., 2006) as an organizing framework for analyzing interviews of 28 decision makers in three urban, southeastern U.S. cities. The decision makers were directors and managers in public and nonprofit organizations that provide services to youth. In each city, the decision makers were from the fields of arts and culture; education; health care; juvenile justice; law enforcement; mental health; public health; parks and recreation; and social services.

The 38 interviews focused on the barriers and supports to youth violence prevention programming as part of a larger project currently being conducted by the Clark-Hill Institute for Youth Violence Prevention at Virginia Commonwealth University (VCU). VCU Clark-Hill Institute research staff designed the original study, conducted the interviews, and oversaw the transcription of the interview tapes. This study asked different questions of the data and used a

different framework for the analysis. An initial review and reflection on the content of the interview transcripts in relation to the absorptive capacity literature led to the formulation of the research questions used in this study. The interviews were imported into NVivo software for coding and analysis for the current study, using the protocols described by Corbin and Strauss (2008) and Richards (2005).

The research subject protections governing the original study were maintained. In Chapter 3, the methodology for the current study is reviewed in detail.

Assumptions

There is a need to know how public and nonprofit decision makers perceive the decision-making process in the context of seeking and acquiring external knowledge for new programs or practices. Both organizational purpose and organizational direction are key decisions for top management:

Indeed, the primary responsibility of top management is to determine an organization's goals, strategy, and design therein adapting the organization for a changing environment. Middle managers do much the same thing for major departments within the guidelines provided by top management. (Daft, 2007, p. 56)

Innovative, evidence-based programming or practices proposed by researchers constitute new, external knowledge for service-providing organizations. The research community perceives a gap between the number of viable interventions developed and their spread to organizations and communities in need of the solutions. The acts of evaluating options and adopting new programs or practices fundamentally presume that new knowledge is sought and acquired. Further, it assumes that decisions that influence the seeking and acquisition of the new knowledge are made by the local public and nonprofit organizations that deliver the services. The fundamental question is: Who makes these decisions and what factors are considered?

Having a complex operating environment increases the complexity of this decision making. In youth violence prevention, the problems are more complex than a technical business problem. The production environment—the environment in which the program or practice is tested and applied—is not under the control of the public or nonprofit organization. Public and nonprofit organizations that provide services to youth are dependent upon external stakeholders for specialized knowledge. They are also dependent upon external stakeholders for their financial support for their operations because external stakeholders often play a role in deciding how the financial support to organization is used.

Further, in matters of public policy, there is an expectation that external stakeholders' values and perceptions influence the selection, adoption, and implementation of a new program or practice. Hence, the values and perspectives of various stakeholders are also more likely to exert an influence on the ability of local public and nonprofit organizations to acquire and use new knowledge. Knowledge-related activities are part of a larger policy process and have a number of external influences. Therefore, a second fundamental question is: What do decision makers perceive to be the barriers, or facilitators, to their capacity to develop or adopt new programs?

The Researcher

The researcher for this study is a doctoral student at Virginia Commonwealth University in the Public Policy and Administration program with educational and professional backgrounds in qualitative evaluation research and information management.

Rationale and Significance

Previous health and prevention research emphasizes the adopter's characteristics and the adopter's fidelity to the intervention model in keeping with the rational science paradigm. These

studies do not recognize the complexity of the adoption process from the perspective of the decision makers within the knowledge seeking organizations. The adoption of new programs and practices assume an organization's ability to absorb new knowledge. However, research in the business sector offers an alternative way of thinking about acquiring knowledge about new programs and practices. The results of this study have the potential to advance theory in the acquisition of external knowledge by public and nonprofit organizations, add to the conceptualization of the absorptive capacity model outside of the business sector, and inform researchers and philanthropies that provide support in knowledge acquisition activities.

This introductory chapter has presented an overview of the proposed study of decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are, or are not, adopted at the local level. The absorptive capacity model developed in the strategic management literature was the initial lens for this qualitative study. Chapter 2 considers the absorptive capacity model in detail, including its relationship to organizational learning, its roots in research and development, current research findings, and recommendations in the health services delivery and violence prevention literatures for its application to these two fields.

Chapter 2: Review of Literature

Introduction

The purpose of this research study was to explore a sample of community-based decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are or are not adopted at the local level. The study is a qualitative, reality-oriented inquiry (Patton, 2002). In qualitative studies, the purpose of a literature review is to provide a guiding approach, or lens, for the study (Corbin & Strauss, 2008; Creswell, 2003; Maxwell, 2005). This study uses the absorptive capacity model in the strategic management literature as a guide to explore external knowledge acquisition. For the purposes of this study, external knowledge is defined as an innovation in prevention programming.

Absorptive capacity is defined as an organization's ability to recognize the value of new, external knowledge, and then to acquire it, assimilate it, and apply it (Cohen & Levinthal, 1990; Lane & Lubatkin, 1998; Todorova & Durisin, 2003; Van den Bosch, Wijk, & Volberda, 2003). Absorptive capacity influences organizational adaptation (Lewin & Volberda, 1999), the transfer of best practice (Szulanski & Cappetta, 2003), and innovative performance (Cohen & Levinthal, 1990).

This review consists of five sections. The first focuses on absorptive capacity in the strategic management literature, including its link to organizational learning, its roots in research and development, and the six dimensions of the learning process model of absorptive capacity.

The learning process model of absorptive capacity, proposed by Lane et al. (2006), is the initial guiding lens for understanding the role of decision makers as either barriers to or facilitators of the acquisition of new, external knowledge in the form of programs or practices. This model's six dimensions are environmental conditions, learning relationships, knowledge characteristics, mental models, systems and structures, and firm strategies. The second section reviews how capacity has been considered in the not-for-profit literature, particularly as it pertains to nonprofits, as they have been the focus of the majority of the research on capacity and capacity building. The third and fourth sections review the context in which absorptive capacity arose as a valuable concept in the health services delivery and the violence prevention literatures. The fifth section addresses the ways in which the absorptive capacity model developed in the business sector, and how this can be of value to the study of external knowledge acquisition by local public and nonprofit organizations.

Absorptive Capacity in the Strategic Management Literature

This section consists of four subsections. The first two subsections consider the relationship of absorptive capacity to organizational learning, and absorptive capacity's roots in the study of business sector investments in research and development. The third subsection discusses the absorptive capacity learning process model and is followed by a summary of the key themes from the absorptive capacity literature. This review of literature concludes with a discussion in which the relevance of absorptive capacity to the current study is set forth.

Relationship to organizational learning. The concept of absorptive capacity that developed in the strategic management literature links to learning because the cornerstones of absorptive capacity and organizational learning are knowledge. There is agreement among scholars of organizational learning that absorptive capacity falls within the larger domain of

organizational learning and the learning organization (Aldrich, 1999; Easterby-Smith & Lyles, 2003), although some authors suggest that organizational learning and knowledge creation cannot occur unless some level of absorptive capacity exists (Chen, 2004; Cohen & Levinthal, 1990; Kim, 1998, 2001). Key authors who influenced scholars in the study of absorptive capacity include Cyert and March (1963), Hedberg (1981), Nelson and Winter (1982), and March (1991). These works also strongly influenced research in organizational learning, and Cyert and March's work on the behavioral theory of the firm is the foundational work on organizational learning (Easterby-Smith & Lyles, 2003).

Cyert and March were the first to articulate the idea that “an organization could *learn* in ways that were independent of the individuals within it” [emphasis in original] (as cited in Easterby-Smith & Lyles, 2003, p. 9). In addressing the locus of learning in an organization and arguing that organizational learning is not simply the sum of individual learning, Hedberg asserted that organizational members “come and go, and leadership changes, but an organization's memories preserve certain behaviors, mental maps, norms and values over time” (1981, p. 6). One of the consequences of organizational memory is the need for organizations to unlearn or forget in order to change. In their evolutionary theory of the firm, Nelson and Winter (1982) proposed that individual skills and organizational capabilities are predetermined by the initial conditions under which a firm is created. Therefore, knowledge and skills can limit an organization's ability to respond to changing environmental circumstances. An organization's “future learning of new capabilities will follow a path that builds on cumulative learning and capabilities of its past” (DeFillippi & Ornstein, 2003, p. 26).

Decisions about the allocation of resources occur in all organizations, and part of this decision-making involves allocating resources for learning. March (1991) addressed the need for

balance between investments in exploratory learning and exploitative learning, both of which are needed for organizational survival and prosperity. Exploratory learning involves “experimentation with new alternatives” and has returns that are “uncertain, distant, and often negative,” whereas exploitative learning “is the refinement and extension of existing competencies, technologies, and paradigms” with returns that are “positive, proximate, and predictable” (March, 1991, p. 85).

Organizational learning scholars acknowledge the importance of the absorptive capacity literature to their field of study. In a citation analysis of the chapters comprising *The Blackwell Handbook of Organizational Learning and Knowledge Management* (2003), editors Easterby-Smith and Lyles found that Cohen and Levinthal’s (1990) seminal article on absorptive capacity received the third highest number of chapter citations. In a special issue of *Management Learning* which honored Chris Argyris, Easterby-Smith, Antonacopoulou, Simm, and Lyles (2004) acknowledged this same work on absorptive capacity as one of the major contributions from strategy researchers to organizational learning because it linked knowledge, learning, and competitiveness.

Unlike in organizational learning, in absorptive capacity the focus is on external knowledge only. Scholars of absorptive capacity acknowledge the influence of learning theory. Not surprisingly, there is overlap in the key journals of articles on absorptive capacity and organizational learning. Key journals for both are *Academy of Management Review*, *Organization Science*, and *Strategic Management Journal*, among others (Easterby-Smith & Lyles, 2003; Lane et al., 2006). Cohen and Levinthal (1989) applied individual learning theory to organizational level learning when explaining absorptive capacity within the research and

development context. Building a firm's absorptive capacity for external knowledge equates to building an organization's learning capacity (Cohen & Levinthal, 1989, p. 569; 1990, p. 138).

Lane et al. (2006) identified organizational learning as one of seven themes⁵ that shaped the study and use of the absorptive capacity construct. They integrated March's (1991) concepts of exploratory and exploitative learning into their model of absorptive capacity by associating the valuing and understanding new knowledge with exploratory learning, and the assimilation and application of new knowledge with exploitative learning. They also found a recursive relationship between absorptive capacity and organizational learning:

Increased learning in a particular area enhances the organization's knowledge base in that area, which further increases its absorptive capacity and, thus, facilitates more learning in that domain. (2006, p. 848)

Lane et al.'s (2006) review of the Cohen and Levinthal model and a thematic analysis of the absorptive capacity literature resulted in their proposal of a learning process model of absorptive capacity. The next subsection summarizes the contributions of Cohen and Levinthal, who laid the foundation for understanding absorptive capacity as prerequisite to the research and development function for innovative performance in competitive environments. The subsection that follows examines the research contributions to the six dimensions of the fuller absorptive capacity model conceptualized by Lane et al.

Roots in research and development. The seminal theoretical model of absorptive capacity (Cohen & Levinthal, 1989, 1990) was developed within the context of exploring how research and development (R&D) influences innovative performance in industries that require knowledge in basic and applied science. Cohen and Levinthal challenged prior research in industrial economics that posited that R&D generates new information and no other direct

⁵ The other six themes are: types of knowledge, organizational structure, organizational scope, innovation, interorganizational learning, and definitions and operationalizations of absorptive capacity.

product. They proposed that R&D serves a dual purpose: to generate new information and to “enhance the firm’s ability to assimilate and exploit existing information” (Cohen & Levinthal, 1989, p. 569). Thus, R&D leads to innovations and further develops a firm’s absorptive capacity.

Cohen and Levinthal (1989) challenged another set of assumptions then held by economists: that technological knowledge in the public domain is a public good and, therefore, a firm’s costs for a transfer of existing knowledge are “typically small relative to the costs of creating new knowledge” (1989, p. 570). The authors argued that a firm’s previous investment in absorptive capacity through R&D in the relevant field directly affects the cost of assimilating new external knowledge. A prior investment in its absorptive capacity reduces these costs because the firm has an existing stock of related knowledge. “Accumulating absorptive capacity in one period will permit its more efficient accumulation in the next” (Cohen & Levinthal, 1990, p. 136). In addition, some level of absorptive capacity is necessary in order for the firm to recognize the value of new external knowledge (1989, p. 584). Expectation formation, or the ability to understand and predict the potential of technological advances, aids in reducing uncertainties in whether investing in absorptive capacity will pay off (Cohen & Levinthal, 1994). A lack of prior investment either can shut out or increase the costs of pursuing certain capabilities or technologies. Absorptive capacity is path or history dependent (1990). Therefore, incentives to learn, Cohen and Levinthal argued, should be a factor in a firm’s decisions about allocating funds to R&D.

Cohen and Levinthal’s research integrated individual learning theory, organizational learning theory, and strategic management. Building a firm’s absorptive capacity for external knowledge equates to building an organization’s learning capacity (Cohen & Levinthal, 1989, p.

569; 1990, p. 138). Incentives to learn are affected by both the quantity of external knowledge to be assimilated and the ease of learning. Ease of learning is influenced by three factors: the complexity of the knowledge, the extent to which the knowledge is targeted or directly related to the firm's needs, and the pace at which the field is advancing (1989, p. 572). A rapidly advancing field requires more staff to keep up with the new knowledge, and it might require staff with cumulative knowledge of a field. More complex knowledge, less targeted knowledge, and a rapidly advancing field all increase the level of difficulty in assimilating new knowledge.

Cohen and Levinthal acknowledged that an organization's absorptive capacity reflects the investment made in the development of individual absorptive capacities. Drawing on the research of cognitive psychologists and learning theorists⁶, they pointed to the importance of accumulated prior knowledge, breadth and categorization of knowledge, and linkages between categories of knowledge in an individual's ability to acquire, store, recall, and use new knowledge. The more deeply one can process new material against the knowledge already stored in memory, the better one's recall and the transfer of learning will be. The greater the diversity of one's prior knowledge, the more likely an individual will see potential linkages to new knowledge, which then leads to creative applications for that new knowledge. Cohen and Levinthal differentiated between learning-by-doing, which they associated with improving existing processes or products, and the assimilation of new knowledge for innovative activity. Figure 1 describes Cohen and Levinthal's model of absorptive capacity.

⁶ Specifically, Cohen and Levinthal draw on the works of Gordon H. Bower and Ernest R. Hilgard (1981), Henry Carlton Ellis (1965), William K. Estes (1970), H.F. Harlow (1949, 1959), and Peter H. Lindsay and Donald A. Norman (1977).

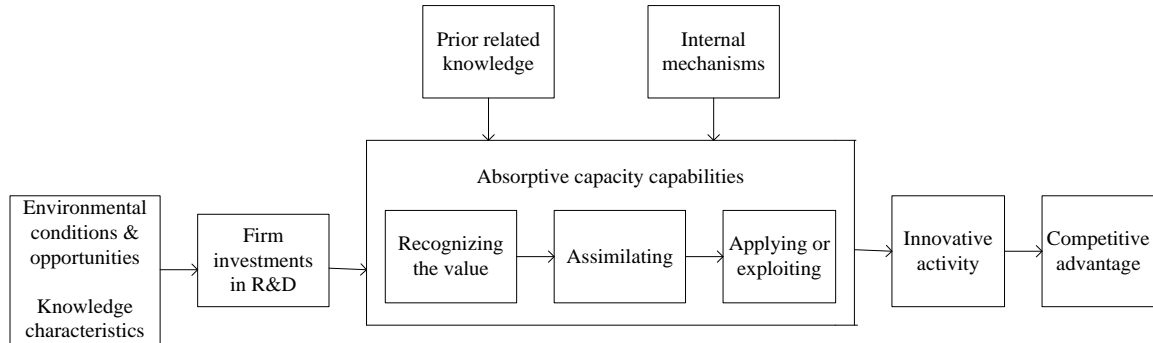


Figure 1. Simplified, linear illustration of Cohen and Levinthal's model of absorptive capacity for new external knowledge.

Cohen and Levinthal also emphasized that a firm's absorptive capacity is more than the sum of individual absorptive capacities, and that some features are "distinctly organizational" (1990, p. 131). These features are prior related knowledge and internal mechanisms. The organizational features that contribute to a firm's absorptive capacity parallel individual learning; in both, a diversity of knowledge and cumulative knowledge contribute to a creative application of new knowledge. Prior related knowledge or the firm's stock of knowledge is a central component of its absorptive capacity, and that absorptive capacity is domain specific. At a minimum, preexisting knowledge can consist of relevant substantive skills or background, a shared language, and an understanding of recent developments in a field (1990, p. 128). Prior knowledge that relates closely to the desired new knowledge enhances a firm's ability to assimilate the new knowledge. A shared language or shared understanding of symbols is necessary for understanding and communicating knowledge. Awareness of current

developments informs where there is useful complementary knowledge or expertise inside or outside of the firm. This awareness can be a critical type of knowledge.

Cohen and Levinthal (1990) identified two key, interrelated internal mechanisms that build organizational-level absorptive capacity: (1) the character and distribution of expertise within the organization, and (2) the structure of communication between the organization and the external environment or between units within the organization.

The problem of designing communication structures cannot be disentangled from the distribution of expertise in the organization. The firm's absorptive capacity depends upon the individuals who stand at the interface of either the firm and the external environment or at the interface between subunits within the firm. (1990, p. 132)

The acquisition of new knowledge and the transfer to potential users within the organization occurs through an interface function. A shared language or mutually understood set of symbols facilitate communication between the organization and its external environment, and between the individuals and units within the organization. Certain conditions, such as new knowledge being very different from existing knowledge, encourage the use of gatekeepers or boundary-spanners who can monitor, acquire, and translate new knowledge from external sources or from other units within the firm. In other conditions, such as when the knowledge environment is rapidly changing or uncertain, multiple receptors might be more effective in acquiring and transmitting new information among units. Regardless of how centralized this interface function is, Cohen and Levinthal underscore that the absorptive capacity of the organization is a function not only of the gatekeeper's capabilities, but of the expertise of the individuals with whom the gatekeeper is communicating new information (1990, p. 132).

A balance between shared knowledge and diversity of knowledge enhances communication and creativity. Some redundancy in expertise across complementary units is

desirable to create effective cross-function interfaces, which should be tightly intermeshed (Cohen & Levinthal, 1990, p. 134). While a shared language and shared understanding of symbols can foster efficient and effective communication within the organization, too much overlap and specialization potentially “impedes the incorporation of outside knowledge and results in the pathology of the not-invented-here (NIH) syndrome” (1990, p. 133). Having some diversity in related, relevant knowledge within and across individuals increases the likelihood of creative, innovative applications of new knowledge. New ideas and applications are more likely to result when individuals who have a depth of related but somewhat diverse knowledge share that knowledge among themselves. Organizational absorptive capacity “is not resident in any single individual but depends on the links across a mosaic of individual capabilities” (1990, p. 133). A well-developed absorptive capacity will enhance members’ performance expectations, the level of innovative activity, and the degree of competitive advantage of one firm over another. Table 1 summarizes the key concepts from the work of Cohen and Levinthal.

Table 1

Key Concepts and Organizational Building Blocks Identified by Cohen and Levinthal

Key Concept	Organizational Building Blocks
Incentives to Develop Absorptive Capacity	<ul style="list-style-type: none"> • Quantity of knowledge needed • Ease of learning new knowledge <ul style="list-style-type: none"> • Complexity of knowledge • Relatedness of knowledge • Field's pace of advancement and cumulativeness
Critical Components of Absorptive Capacity	<ul style="list-style-type: none"> • Prior relevant related knowledge <ul style="list-style-type: none"> • Substantive or technical background /skills • Shared language • Awareness of current developments • Internal mechanisms <ul style="list-style-type: none"> • Character and distribution of expertise within organization • Structure of intra- and inter-organizational communication

Before Lane et al. (2006) developed their learning process model, three alternative models were built upon Cohen and Levinthal's work. Because these earlier models helped shape subsequent work by researchers on absorptive capacity, a discussion of these contributions is integrated into the overview of the dimensions of absorptive capacity based on their fit with the learning process model of absorptive capacity.

Lane and Lubatkin (1998) argued that Cohen and Levinthal's implicit assumption that "a firm has equal capacity to learn from all other organizations" (1998, p. 461) was faulty. They reconceptualized absorptive capacity as a learning dyad between student-teacher firm pairings that they called relative absorptive capacity. Van den Bosch, Volberda, and de Boer (1999) studied the co-evolution of absorptive capacity and the knowledge environment. They posited that an organization's absorptive capacity evolves along with its knowledge environment. As an organization acquires new knowledge, it changes to meet the requirements of the new knowledge environments. The application of this new knowledge then, in turn, influences the environment in which it operates. Zahra and George (2002) distinguished between potential and realized absorptive capacity. External knowledge acquisition and assimilation constitute potential absorptive capacity, and knowledge transformation and exploitation constitute realized absorptive capacity. Another important concept related to external knowledge acquisition is activation triggers. Activation triggers, which are internal or external events or crises, mediate potential absorptive capacity by increasing organizational efforts in knowledge acquisition and assimilation. Activation triggers are such things as changes in organizational strategies or structures, and industry changes in the market or technology.

Lane et al. (2006) identified absorptive capacity as "one of the most important constructs to emerge in management literature in recent decades" (2006, p. 833). They developed a

learning process model of absorptive capacity from their reexamination of Cohen and Levinthal's work and from their analysis of the use of the absorptive capacity construct in literature published between 1991 and 2002. Their learning process model views absorptive capacity as

A firm's ability to utilize externally held knowledge through three sequential processes: (1) recognizing and understanding potentially valuable knowledge outside the firm through exploratory learning, (2) assimilating valuable new knowledge through transformative learning, and (3) using the assimilated knowledge to create new knowledge and commercial outputs through exploitative learning. (2006, p. 856)

Their definition retains the emphasis on external knowledge and the necessity of recognizing its value, and it makes the links to learning explicit, as did Cohen and Levinthal. Whatever the new external knowledge, it must first be recognized and understood, next assimilated, and then used creatively within the firm. In their model, Lane et al. specify six internal and external antecedents to an organization's absorptive capacity:

1. Environmental conditions (external characteristic)
2. Knowledge characteristics (internal/external characteristic)
3. Learning relationships (internal/external characteristic)
4. Mental models (internal characteristic)
5. Structures and processes (internal characteristic)
6. Firm strategies (internal characteristic)

Figure 2 presents a simplified illustration of these antecedents and their relationship to absorptive capacity, drawn from Lane's proposed model. Lane et al. noted that there are interrelationships between the antecedents, as well as feedback loops from the outputs to the antecedents, that they do not include in their original diagram because they wanted to simplify it (2006). The authors

also noted that it is not practical or feasible to study the model as a whole in one research endeavor.

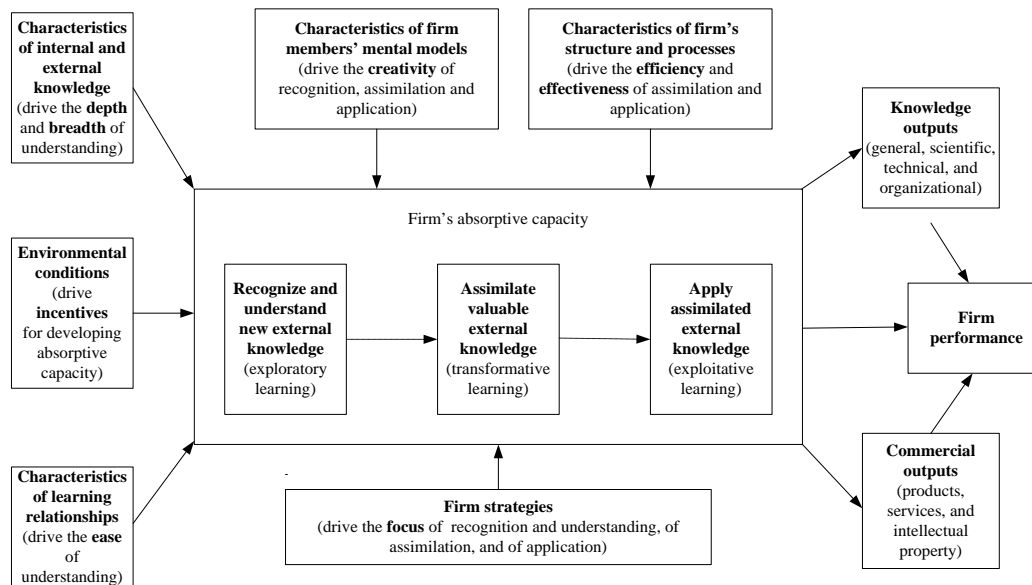


Figure 2. Simplified representation of the learning process model of absorptive capacity proposed by Lane, Koka, and Pathak. The authors used bolded text to signify the names of constructs or construct dimensions and parenthetic text to describe their relationships to absorptive capacity. This representation is simplified. It omits the relationship arrows between the drivers and between the drivers and the outcomes, as well as the feedback loops from the outcomes to the drivers, to keep it focused on absorptive capacity.

The following section examines the six dimensions of the absorptive capacity model developed by Lane et al. (2006) and collates relevant research into the dimensions. In Lane's words, these dimensions are the “drivers” of an organization's absorptive capacity.

Dimensions of absorptive capacity.

Environmental conditions. An organization's environment consists of "all elements that exist outside of the boundary of the organization and have the potential to affect all or part of the organization" (Daft, 2007, p. 138). Environmental conditions drive incentives for developing absorptive capacity (Cohen & Levinthal, 1989, 1990; Daghfous, 2004; Lane et al., 2006; Liao, Welsch, & Stoica, 2003; Van den Bosch, et al., 1999) and have been studied in the context of knowledge appropriability (Cohen & Levinthal, 1989), environmental stability or turbulence (Liao et al., 2003; Van den Bosch et al., 1999), and activation triggers or crises (Kim, 1998, 2001).

Cohen and Levinthal (1989) proposed that, in addition to having a direct effect on R&D spending, absorptive capacity is also a mediating influence on the effects that technological opportunity (i.e., relevant external knowledge) and appropriability conditions (i.e., knowledge spillovers) have on R&D spending. Competitor interdependence influences appropriability, which can be defined as the extent to which firms are able to protect their knowledge from acquisition by competitors. Cohen and Levinthal developed a model to examine the relationship between R&D spending (dependent variable) and technological opportunity, appropriability conditions, competitor interdependence, and absorptive capacity (independent variables). They used secondary data from the Federal Trade Commission's Line of Business Program on business unit sales, transfers, and R&D expenditures, and supplemented it with a cross-sectional survey of 1,719 business units in 318 manufacturing firms in 151 lines of business. Cohen and Levinthal's model confirmed that

- As the amount of available relevant external technical knowledge increases, R&D increases in more difficult learning environments, and

- As the amount of available relevant knowledge spillovers from competitors increases, the incentives to invest in R&D to enhance firm absorptive capacity for knowledge exploitation increases.

A practical implication is that if an organization wants to take advantage of the availability of relevant external knowledge that is difficult to assimilate and apply, then a further investment in the R&D function is needed master the new technical knowledge.

Van den Bosch et al. (1999) distinguished between stable and turbulent knowledge environments. In a stable knowledge environment, the authors suggest the focus is on exploitation or refinement of existing component knowledge (prior knowledge bases). An organization with this level of moderate absorptive capacity tends to be reactive and inward looking, rather than proactive in perceiving emerging opportunities.

In a turbulent knowledge environment, Van den Bosch et al. (1999) assert that absorptive capacity needs development. For this development to occur, the organization can reconfigure one or more of the determinants of an organization's absorptive capacity, which are component knowledge (i.e., prior knowledge bases), organizational form (i.e., organizational structure), and combinative capabilities (i.e., internal processes and socialization). As a higher level of absorptive capacity develops, the organization becomes more proactive in seeking opportunities. This, in turn, shifts the path to exploratory learning as the organization becomes outward looking.

Consistent with Cohen and Levinthal's observations about the cumulative nature of absorptive capacity, the gain in organizational absorptive capacity in a turbulent environment raises the level of prior related knowledge as more knowledge accumulates. Increased expectations or aspirations, coupled with an exploratory orientation, can result in changes to the organizational form or its combinative capabilities. The positive change in expectations and the

new exploitation/exploration path both influence and are influenced by the knowledge environment. For example, if a proactive organization absorbs and utilizes new extra-industry component knowledge in a commercial application, then its own knowledge environment and that of its competitors can change.

Van den Bosch et al. (1999) reported on the results of two longitudinal case studies of Dutch publishing companies during an industry transition from traditional publishing to multimedia publishing. They documented changes, albeit different in each company, in the three determinants of absorptive capacity: component knowledge, organizational form, and combinative capabilities. (These are discussed in more detail in the subsection entitled “Structures, Policies, and Processes.”) Both organizations adopted organizational forms that were more flexible, developed organizational mindsets that were open to change, and increased substantially their knowledge bases in new technologies.

Liao et al. (2003) examined the moderating effect of environmental turbulence on the relationship between organizational absorptive capacity and organizational responsiveness. The two major components of absorptive capacity measured are external knowledge acquisition and intrafirm knowledge dissemination. A survey of 107 randomly sampled U.S. growth-oriented small and medium-sized enterprises (primarily in the manufacturing and service industries) revealed that the more turbulent the environment, the greater the impact of intrafirm knowledge dissemination on organizational responsiveness. The authors expressed surprise that they did not find support for a related hypothesis, which postulated that the greater the environmental turbulence, the greater the impact of external knowledge acquisition on organizational responsiveness. They suggested that top management is likely responsible for both external knowledge acquisition and intrafirm knowledge dissemination, and that in turbulent times,

management chooses to focus internally. This internal focus on intrafirm knowledge dissemination buffers management from information overload and reduces organizational uncertainty (2003, p. 78).

Zahra and George (2002) pointed out the importance of activation triggers as moderators of the influence of antecedents on potential absorptive capacity. In their model, potential absorptive capacity equates to external knowledge acquisition and assimilation. They identified two antecedents to absorptive capacity: 1) knowledge source and complementarity, and 2) experience. Activation triggers include internally or externally generated events that require a response. Events that are “wide in scope and potential impact or persistent” (such as crises) are more likely to trigger a search for external knowledge, and the greater the intensity of the trigger, the more likely the organization will invest in building absorptive capacity (2002, p. 194).

Kim (1998) examined the influence of external activation triggers in a case study of Hyundai Motor Company’s catching-up strategy. Three primary sources of externally evoked crises were the market, technology, and government. Kim reminds us that, in developing countries, “particularly where the state orchestrates industrialization, the government could impose a crisis by setting up challenging goals for firms in a strategically designated industry” (1998, p. 509). Between 1968 and the mid-1970s, Hyundai was assembling Ford automobiles. In the mid-1970s, the South Korean government imposed what became an external crisis for Hyundai: governmental policy changed radically by requiring the design of Korean cars. Hyundai had successfully employed the use of internally constructed crises to expedite the development of its absorptive capacity. When faced with this external crisis, Hyundai viewed it as an opportunity. They created a series of internal crises and paired them with a strategy for acquiring the new knowledge needed to build its knowledge base. Kim observed that the

creation of internally constructed crises to capitalize on the external crisis was necessary because external crises can be subject to denial, conflicting interpretations, and multiple proposed responses. Internally constructed crises can be used strategically to support the building of absorptive capacity and, if constructed at the team level, can garner more organizational support and increase the level of effort employees contribute.

Environmental conditions drive organizational incentives to develop absorptive capacity (Lane et al., 2006). This is an under-studied area in the absorptive capacity literature.

Environments can be relatively stable, and during periods of stability there is tendency for organizations to focus on exploiting existing knowledge. In contrast, during periods of turbulence there is a need for building organizational absorptive capacity. The case studies of Van den Bosch et al. (1999) and Kim (1998) demonstrated that turbulence can be used as an opportunity if the organization is strategic in mobilizing its resources internally.

Knowledge characteristics. Internal and external knowledge characteristics influence the depth and breadth of the understanding brought to a knowledge domain and, therefore, the ability to recognize the value of and understand new knowledge (Lane et al., 2006). Lane et al. described the most commonly studied characteristics as knowledge content (know-what), tacitness (know-why), and complexity (number of interdependencies—technologies, routines, individuals, and resources). Summarizing their findings, Lane et al. noted that the literature suggests that similarity of content enhances knowledge absorption and assimilation, and tacitness and complexity make knowledge more difficult to absorb. This is consistent with the foundation laid by Cohen and Levinthal (1989, 1990) in their propositions about ease of learning and knowledge complexity. If there is prior knowledge within the organization that relates closely to the needed new knowledge, the organization's ability to assimilate the new knowledge is

enhanced. Cohen and Levinthal's model confirmed that dependency on a firm's own R&D increases when the ease of learning of new knowledge decreases. This, in turn, increases firm R&D spending. Knudsen, Dalum, and Villumsen (2001) examined two knowledge types: supplementary (new to the firm but within existing competency areas) and complementary (new to the firm and in new competency areas). They found that both have a positive impact on innovative sales share, with supplementary knowledge showing statistical significance.

Learning relationships. The study of knowledge characteristics or attributes overlaps with the study of the characteristics of learning relationships because the type of knowledge and knowledge complementarities can ease knowledge transfer (Chen, 2004; Lane & Lubatkin, 1998). In Lane et al.'s (2006) process model of absorptive capacity, the characteristics of learning relationships between the firm and its outside partner(s) drive the ease of acquiring new external knowledge. The alliance characteristics studied include knowledge complementarity (Lane & Lubatkin, 1998), type of alliance (Chen, 2004; Kim, 1998; Knudsen et al., 2001; Mowery, Oxley, & Silverman, 1996), and connectedness or openness to knowledge sharing (Cockburn & Henderson, 1998; Fosfuri & Tribo, 2008; Knudsen et al., 2001; Lim, 2009; Vinding, 2000).

Lane and Lubatkin (1998) investigated learning relationships between pairings of organizations where one filled the "teacher" role and the other filled the "student" role. They found positive and significant associations with interorganizational learning for the a) relevance of the student firm's basic knowledge to the teacher firm's basic knowledge (knowledge complementarity), and b) shared research communities of the two firms (similar problems studied). The premise of Mowery et al.'s study (1996) of learning alliance types is that strategic alliances are a means for organizations to learn new technologies, and that equity joint ventures,

which involve shared ownership, are the more effective alliance type for transferring tacit knowledge. Mowery et al. did find the equity joint venture to be the more effective structure for the transfer of complex technological knowledge. Similarly, Chen's (2004) survey findings showed that perceived knowledge transfer performance was highest with explicit knowledge in contract-based alliances, and next highest for tacit knowledge in equity-based alliances.

Kim's case study (1998) considered the types of alliances with external entities that Hyundai's management negotiated. Kim pointed out that management deliberately chose not to engage in an equity joint venture during their initial catching-up phase because the learning their engineers would be engaged in would be too passive. The strategy was to first develop an internal engineering capability of Ford automobile assembly (i.e., know-how of complex technologies), thereby building the firm's explicit knowledge base before engaging in its own R&D for designing and manufacturing the Hyundai automobile. In subsequent phases, equity arrangements were part of the strategy.

Lim's (2004) copper interconnect technology case study showed that the type of relationship depends upon the type of knowledge a firm needs, which in turn depends on the level at which the firm enters the industry.⁷ IBM developed copper interconnect technology, in which copper rather than aluminum is used for the conduction of electricity between circuit elements on semiconductor chips. For IBM's competitors, a connectedness between their firm's R&D staff and the upstream research community was necessary to acquire disciplinary knowledge, such as understanding copper technology. In a two-way sharing of new knowledge, upstream partners took care to protect their development secrets from downstream partners.

⁷ Lim (2004) proposed that different forms of absorptive capacity are for different types of knowledge: disciplinary knowledge is defined as general scientific knowledge, domain-specific knowledge is needed for solutions to specific technical problems, and encoded knowledge is embedded in tools and processes.

Other firms, such as early adopters, needed domain-specific knowledge, such as an understanding of the trajectory of the technology. Alliances, consortia, and investments in university research helped to anticipate technological change, recruit talented individuals, and influence the direction of research. For firms needing encoded knowledge, such as how to make copper technology portable, the focus was on finding the right partner to acquire routines and processes.

In studying the connectedness of scientists and researchers, Cockburn and Henderson (1998) proposed that co-authorship requires an investment of time by the collaborators. To create an opportunity to exchange tacit knowledge, each partner must actively engage in joint discussions or problem solving. Cockburn and Henderson found a positive and significant correlation between a for-profit firm's connectedness with universities and that firms' research productivity. For Knudsen et al. (2001), alliances were a measure of a firm's openness to knowledge sharing. They postulated that "openness towards knowledge sharing is a precondition for knowledge access" and that "knowledge access broadens a firm's absorptive capacity" (2001, p. 2). Their analysis showed that a strategic alliance was significant in explaining innovative sales share.

Vinding (2000) also found that in Denmark's manufacturing and service industries, firms that were more innovative had closer relationships with a network of external actors, such as customers, suppliers, universities, and consultants. This relationship between innovative performance and closer external relationships was statistically significant. In an extension of Zahra and George's (2002) work, Fosfuri and Tribo (2008) hypothesized that greater levels of interaction with external knowledge sources, such as occurs in R&D cooperation, have a positive impact on an organization's capacity to acquire new knowledge. The basic underlying logic was

that R&D lab functioning is highly reliant upon tacit knowledge, which is acquired through experiential learning. Their analysis showed that while both contracted out R&D and collaborative R&D were positive and highly significant, collaborative R&D had a higher coefficient. Both built capacity to acquire and assimilate new external knowledge.

In summary, researchers who have examined learning relationships that build absorptive capacity have studied different aspects of those relationships. Examples are complementarity of knowledge, type of alliance, and connectedness or openness toward knowledge sharing. The findings from these studies suggest that the characteristics of learning relationships that drive absorptive capacity for more complex, tacit knowledge are those in which:

- The recipient organization has an existing knowledge base in which it can assimilate the needed new knowledge;
- The partner organizations have some overlapping knowledge bases;
- The partner organizations have a shared, equitable financial interest in the domain(s) related to the knowledge to be transferred; and
- The partner organizations have a close, collaborative relationship.

When shaping a strategy for learning partnerships with external organizations, decision makers need to consider the characteristics of the knowledge they need, how that knowledge will fit into their organization's existing knowledge base, and how they and their potential partners will structure their alliance.

Mental models. In the learning process model, the characteristics of firm members' mental models directly influence their creativity in recognizing, assimilating, and applying knowledge (Lane et al., 2006). Cohen and Levinthal (1990) discuss the combination of prior relevant knowledge and problem-solving skills, or the ability to see associations and linkages, which underlie creativity. Mental models "drive the creativity of recognition, acquisition, and

assimilation” of external knowledge (Lane et al., 2006, p. 856). The influence of mental models has received more study since the time of Lane’s review, but is still an under-studied dimension in absorptive capacity literature.

In the context of absorptive capacity, mental models have been studied in terms of the knowledge search experience, expectation formation, and competency traps. Zahra and George (2002) note the influence of experience on the acquisition and assimilation of external knowledge. “Experience influences the locus of the search” and “memory affects new product development by influencing the process by which firms interpret incoming information and act upon it” (2002, p. 193).

Expectation formation involves both aspirations and predictions; it allows a firm to detect and accurately interpret signals from the environment (Cohen & Levinthal, 1990; Van den Bosch et al., 1999). In both, the firm’s level of absorptive capacity influences expectation formation and, through a feedback loop, revised expectations can influence incentives to invest in absorptive capacity. Van den Bosch et al.’s case studies suggested that firms need high levels of absorptive capacity to set their aspirations at a level commensurate to the opportunities present in the multi-media environment, overcoming customer lack of readiness for new forms of product delivery. Zahra and George (2002) point out that knowledge transformation not only yields new insights and stimulates an awareness of new opportunities, but it “alters the way the firm sees itself and its competitive landscape” (2002, p. 190). Kim (1998) found that Hyundai’s successes in “transforming crises into creative learning evoke the self-confidence that leads to further risk-taking by crisis construction” (1998, p. 518), which was the strategy used by the firm to accumulate its absorptive capacity.

Competency traps, such as “lockout” and “not-invented-here syndrome,” are discussed by Cohen and Levinthal (1990). Lockout occurs when an organization has failed to develop capacity in a particular knowledge area. For example, an organization might fail to pick up signals from the knowledge environment that an area in which they lack capacity presents a real opportunity. This organization then cannot advance or compete effectively. Socialization capabilities are path dependent, since they build and coalesce over time, and manifest as “a coherent set of beliefs, a high degree of shared values, a common language, and a strongly agreed upon kind of appropriate behavior,” but strong cultures can “resist deviance, slow down attempts at change, and tend to foster inbreeding” (Van den Bosch et al., 1999, p. 557). Zahra and George (2002, p. 195) proposed that a well-developed absorptive capacity for knowledge acquisition and assimilation helps avoid these three types of competency traps:

1. Familiarity: an overemphasis on refining and improving existing knowledge, which prevents the firm from exploring alternative knowledge sources and limits the organization’s cognitive schemas.
2. Maturity: a need to have reliable and predictable outputs, which can limit knowledge exploration.
3. Propinquity (nearness): a firm’s disposition to explore knowledge in areas closest to its existing expertise, precluding an examination of radical shifts in the industry.

Liao et al. (2003) noted that small and medium sized enterprises (those with less than 500 employees) are particularly susceptible to the familiarity and propinquity traps because they tend to have limited resources and are less able to bear risks associated with exploratory knowledge searches and acquisitions. These traps, including the trap of having low expectations, hamper an organization’s ability to recognize the value of new knowledge (Todorova & Durisin, 2003).

Case studies that considered firm members' mental models in relation to absorptive capacity suggest that past successful experience in knowledge searches increases an organization's confidence and willingness to acquire new knowledge.

Structures, policies, and processes. In the learning process model, structures, policies, and processes influence the efficiency and effectiveness of external knowledge assimilation and application (Lane et al., 2006). This conceptualization emphasizes the influence on knowledge assimilation and application, whereas other authors clearly acknowledge that structures, policies, and processes influence the valuing and acquiring new external knowledge. For example, Cohen and Levinthal (1990) identified communication mechanisms as a key antecedent to absorptive capacity. Communication mechanisms include internal processes by which new knowledge circulates between and among units.

Szulanski (1996) and Liao et al. (2003) considered the relationship between knowledge circulation within the firm and the firm's absorptive capacity. Szulanski's study (1996) examined intra-organizational transfer of best practices of technical or administrative practices that require more than one person to perform and require the coordinated effort of many people. The two most important barriers to intrafirm best practice transfer were the absorptive capacity⁸ of the recipient unit and the causal ambiguity⁹ of the knowledge. Liao et al. (2003), in their study of small and medium sized firms, found that organizational responsiveness during periods

⁸ Szulanski (1996) scored absorptive capacity on a 9-item scale that was based largely on Cohen and Levinthal's work. These items tapped presence of common language, vision for transfer, state-of-the-art knowledge, division of roles and responsibilities for implementation, possession of necessary skills, technical competence to absorb transfer, managerial competence to absorb transfer, knowledge of who has best knowledge to exploit transfer, and knowledge of who can help solve problems in transfer.

⁹ Szulanski (2003) defined causal ambiguity as a lack of know-why, "why something is done, and why a given action results in a given outcome. . . . The higher the causal ambiguity, the more difficult it may prove to realize similar results by applying knowledge in a different context" (2003, p. 523).

of turbulence increased as the organization's external knowledge acquisition and intrafirm knowledge dissemination increased, with both of these variables being significant.

Van den Bosch et al. (1999) conducted in-depth case studies to examine the changes in both organizational structure and knowledge processes in Dutch publishing firms as the industry evolved from print to multi-media. In this study, it was assumed that structures and processes moderate absorptive capacity. Organizational form is "a type of infrastructure which enables the process of evaluating, assimilating, integrating, and utilizing knowledge in a specific way" (1999, p. 554); other things being equal, different organizational forms have different influences on absorptive capacity. Organizational knowledge processes, or combinative capabilities, can be used to absorb knowledge "located within the firm, within its own industry environment, or within other, related industry environments" (1999, p. 556).

Organizational structures are defined in terms of form (functional, divisional, matrix)¹⁰ and organization knowledge processes are defined in terms of combinative capabilities (systems, coordination, and socialization capabilities)¹¹. Van den Bosch et al. (1999) proposed that the functional form has a negative impact, the divisional form has a moderate impact, and the matrix form has a positive impact on absorptive capacity. The authors proposed that, other things being equal, systems and socialization capabilities have negative impacts on absorptive capacity

¹⁰ Van den Bosch et al. (1999) differentiated the three organizational structures as follows. Functional forms have activities grouped under functional managers, with multiple levels of hierarchy, small spans of control, and specialized knowledge within functional areas. Divisional forms have product-market combinations in different groupings, with limited hierarchies, large spans of control, and knowledge at divisional level. Matrix forms consist of flexible groupings with dual hierarchies, with few levels within the hierarchies, autonomous units or groupings, and are often short-lived to meet specific needs.

¹¹ Van den Bosch et al. (1999) grouped knowledge processes as follows. Systems capabilities include policies, procedures, manuals, and information systems that integrate explicit knowledge, provide an organizational memory, and are changeable by management. Coordination capabilities are lateral relationships, informal and formal, between group members and are path dependent. Socialization capabilities refer to the ability of the organization to foster a shared ideology through its culture and are path dependent.

whereas coordination capabilities have a positive impact on absorptive capacity. Table 2 summarizes the hypothesized relationships between organizational forms and combinative capabilities relative to knowledge absorption efficiency, scope, flexibility, and impact on absorptive capacity.

Table 2

Hypothesized Efficiency, Scope, and Flexibility of Knowledge Absorption and Impact on Absorptive Capacity of Different Organizational Forms and Combinative Capabilities^a

Form	Efficiency of Knowledge Absorption	Scope of Knowledge Absorption	Flexibility of Knowledge Absorption	Impact on Absorptive Capacity
Organizational Form				
Functional	High	Low	Low	Negative
Divisional	Low	Low	High	Moderate
Matrix	Low	High	High	Positive
Combinative Capabilities				
Systems	High	Low	Low	Negative
Coordination	Low	High	High	Positive
Socialization	High	Low	Low	Negative

Note. Adapted from “Coevolution of firm absorptive capacity and knowledge environment: Organizational forms and combinative capabilities,” by F. A. Van den Bosch, H. W. Volberda, and M. de Boer, 1999, *Organizational Science*, 10(5), 551-568.

^aVan den Bosch et al. defined these dimensions as follows. Efficiency refers to the cost and economies of scale aspect, scope to the breadth of existing component knowledge drawn on, and flexibility to the “extent that a firm can access additional, and reconfigure existing, component knowledge” (Van den Bosch et al., 1999, p. 552). “Component” knowledge is knowledge related to products or services, production processes, or markets. It is an antecedent to absorptive capacity in these case studies.

Van den Bosch et al. (1999) examined the changes in these determinants of absorptive capacity (organizational form and combinative capabilities related to knowledge processing) for a fifteen-year period comprising the mid-1980s through 1997, and reported on the results of two illustrative case studies. The following proposition was tested and largely confirmed:

In increasingly turbulent knowledge environment, firms are likely to increase their absorptive capacity by developing organization forms and combinative capabilities that are conducive to high scope and flexibility of knowledge absorption. (1999, p. 558)

Both publishing companies changed their organizational forms from the functional to the innovative form. For example, one of the publishing companies included a new business development unit as part of the transition to the matrix form. One benefit of this new department was its ability to absorb new knowledge from external partners in network software and services. This ability triggered a series of other changes within the firm: an external partnership with a software company, access to a new market, and knowledge of how to sell its database in a promising network environment. Scope and flexibility of knowledge absorption increased.

Both publishers changed their combinative capabilities, albeit in ways unique to their organization. For example, one of the publishers had limited system capabilities in planning, budgeting, and procedures. Top management shifted the organization's focus toward monitoring new media projects for their coherence, and away from continuing to enforce stringent financial guidelines that limited exploration of new knowledge areas. This organization also experienced strong challenges to its socialization culture when management instituted development, training, and conferences to increase coordination between its semi-independent publishing groups. These kinds of changes positioned the publisher to increase absorptive capacity, shifted the focus from exploitative activities to exploratory activities, and positively affected the aspiration level of the company.

Van den Bosch et al. (1999) noted some findings that their model did not anticipate. First, limited systems capabilities did not slow down knowledge absorption, and these capabilities facilitated the breaking down of old socialization capabilities. Through clear directions, systems capabilities "indirectly enabled the required acquisition, integration, and

utilization of product, production process, and market knowledge” (1999, p. 565). Second, the old socialization capabilities were in line with customer expectations, and took several years to change. Customers were not ready for change in the products. The authors suggested that when absorptive capacity is high, an organization’s expectations are raised, allowing it to pursue opportunities in the environment that are independent of expected performance criteria.

Firm strategies. Strategies provide direction by identifying the areas of knowledge that are valuable to the organization, thus defining the benefits that could be realized from acquiring, assimilating, and applying new external knowledge (Lane et al., 2006). At first glance, Lane et al.’s conceptualization appears narrow, only pertaining to “what areas of knowledge are valuable” (2006, p. 857). However, the authors point out the potential relationship of firm strategies to other dimensions of the absorptive capacity learning process model:

- Firm strategies, structures, and processes are inter-related, and
- Knowledge outputs and commercial outputs of a firm can influence managers’ strategies, change the mental models of firm members, and spur the evolution of the firm’s structures and processes.

In the empirical studies they examined, Lane et al. found strategy measures that had been overlooked, with the exception of Van den Bosch et al.’s case studies (1999). More recently, researchers have documented and analyzed firm strategies in developing absorptive capacity through case studies (Easterby-Smith, Graca, Antonacopoulou, & Ferdinand, 2008; Kim, 1998, 2001; Lim, 2004).

Cohen and Levinthal suggested that when deciding whether to develop knowledge internally or externally, a key factor is how much of the external knowledge should be integrated into the firm’s product and process innovation. Firm-specific, complex, and sophisticated new knowledge integration needs competent, experienced internal staff within the firm (Cohen &

Levinthal, 1990). Lane and Lubatkin (1998) observed that the change in the rules of business competition during the 1990s shifted the view of firm alliances from being a way to share resources and risks to a way to create learning alliances, allowing firms to develop capabilities more quickly while minimizing their exposure to uncertainties. The case study research conducted in the 1990s and 2000s show support for these observations.

In Kim's case studies of Hyundai (1998) and Samsung (2001), the author found that both companies were in catch-up mode relative to firms in more developed countries, and both were very successful in enhancing absorptive capacity through migratory, or externally located, knowledge and crisis construction. In these studies, the hiring of experienced personnel expedited the assimilation of imported technologies. Kim (2001) observed that there was a difference in the kind of migratory knowledge needed by the two companies due to the differences in the degree of technical sophistication between the two industries. For the automobile industry, it was important for Hyundai to acquire knowledge through literature reviews, observational tours, and the hiring of experienced technicians and engineers, whereas in the semi-conductor industry it was important for Samsung to acquire knowledge through hiring high quality scientists and engineers. Knowledge assimilation of imported technologies was accomplished primarily through "learning by doing" at Hyundai and through "learning by research" at Samsung.

Kim (1998, 2001) also examined the strategic use of internally constructed crises at Samsung and Hyundai. At Samsung, the internally generated crises were ambitious goals, such as the development of a production system for semiconductor chips and the subsequent development of a mass production plant, both within six-month timeframes. The South Korean government was not as positioned to create externally generated crises in the semi-conductor

industry (Samsung) as in the automobile industry (Hyundai). Initially, the crisis at Hyundai was created by the South Korean government, when it changed the national policy from one of assembly production of foreign cars to the development of Korean cars. After Hyundai met this challenge, crises were created internally, such as high production and export goals.

At both Samsung and Hyundai, management proactively aligned internally-constructed crises with knowledge strategies to expedite the learning process, moving the companies through preparation, acquisition, assimilation, and application strategies designed for each phase of catching up with competitors. Careful analysis identified what types of tacit and explicit knowledge were needed and how best to obtain it (e.g., literature reviews, developing R&D networks, hiring experts, sending personnel abroad for education or training). Kim (1998, 2001) observed that the achievement at each phase reset the capacity platform for the subsequent phase, creating a successful learning upward spiral that enabled the companies to catch up with competitors in expedited timeframes.

As noted earlier, Lim (2004) explored the strategic use of learning relationships in the copper interconnect industry to increase absorptive capacity for knowledge spillovers from innovating companies. Strategic choices about whether or not to develop absorptive capacity internally were based upon the type of knowledge to be absorbed (disciplinary, domain-specific, or encoded), since different types of knowledge required different practices. In the copper interconnect industry, Lim tells us that much of the industry knowledge is “tacit and deeply embedded in organizational processes” (2004, p. 8).

IBM originally developed copper interconnect technology and was reasonably successful in guarding its knowledge. Lim found that companies that followed IBM acquired that domain-specific knowledge primarily by joining a consortium of leading American semiconductor

companies. This not only allowed these companies to share leadership in the consortium, but it influenced the direction of the public R&D on copper interconnects. Much of this research occurred at universities, which provided competitors with the opportunity to hire trained graduate students. Further, the consortium purchased knowledge from IBM, and member organizations hired key individuals away from IBM.

Disciplinary knowledge derived from active participation, a connection to the upstream research community, and a reward structure for academic collaboration and publication.

Companies that made this type of investment then protected their knowledge from spilling over into the public domain thus benefiting suppliers and alliance partners. The absorptive capacity for encoded (explicit) knowledge required acquiring the routines and processes developed by others. This involved identifying the right partner(s) and sustaining the relationship(s) as long as needed. In essence, Lim's (2004) case study showed that management in the companies played a significant role in choosing the strategy for developing absorptive capacity based upon the type of knowledge needed and the landscape of available, or appropriable, knowledge.

Todorova and Durisin (2003) emphasized the importance of considering power relationships both within organizations and between organizations and their external stakeholders. The authors associate power with the allocation of resources. They found that, within an organization, power linked more with exploiting new knowledge than with valuing and acquiring it. This manifests as a failure to allocate resources to create products and services from new external knowledge. However, with external stakeholders, power (or resource allocation) is associated with valuing and acquiring new knowledge instead of exploiting that knowledge. For instance, when a company focuses on existing customers and not on emerging technologies, it fails to allocate resources to explore innovative ideas.

Easterby-Smith et al. (2008) explored the use of power by upper management in case studies of a United Kingdom Internet business, a United Kingdom hospital trust, and a European multinational chemical company. The authors examined power in relation to absorptive capacity because political issues arose in almost all of the case study interviews. Management used systemic power (diffused throughout organizations) to gain access to external knowledge, and used episodic power (discrete political acts for self-interest) to position themselves to either acquire or use external knowledge. In the Internet business and the hospital trust, systemic power was used to give certain senior managers legitimate roles in accessing external information. Episodic power preceded systemic power in all three organizations. In the hospital trust, the CEO initially exercised episodic power to redefine his role relative to lobbying external stakeholders for access to external knowledge. In the Internet company, episodic power was used to press for the utilization of external knowledge in adopting practices from a newly acquired IT company. In the multinational chemical company, episodic power was used to justify a new business proposition based on a combination of technical innovation and local funding.

The case studies conducted by Van den Bosch et al. (1999), Lim (2004), Kim (1998, 2001), and Easterby-Smith et al. (2008) depict the complexities faced by firm management in the acquisition of new knowledge. An organization assesses its external knowledge needs in light of their existing knowledge capabilities, and these assessments inform subsequent strategies to acquire knowledge. Strategies include: carefully selecting learning partners based upon characteristics of the needed knowledge; using internally constructed crises to intensify the development of absorptive capacity; using power to position the organization more favorably for

knowledge acquisition; and making changes in organizational form, culture, systems, and ways of accomplishing work to create a more interactive, coordinated environment.

Summary. Absorptive capacity is the ability of an organization to value, acquire, assimilate, and apply new external knowledge to succeed in a competitive environment. The concept of absorptive capacity expanded to a dynamic capability in a fuller learning process model, with six internal and external characteristics that drive the capability (Lane et al., 2006). The essential features of the original definition—valuing, acquiring, assimilating, and applying external knowledge—are retained and associated with exploratory learning (valuing and acquiring) and exploitative learning (assimilating and applying).

The six interrelated characteristics that influence an organization's absorptive capacity are environmental conditions, characteristics of learning relationships, characteristics of internal and external knowledge, characteristics of firm members' mental models, internal structures and processes, and firm strategies. In this chapter, existing research about these dimensions has been reviewed and classified according to these dimensions. Since researchers operationalized absorptive capacity differently and studied different dimensions, there is not a mature, coherent body of work. With the exception of Easterby-Smith et al.'s (2008) inclusion of a health trust, the focus in studies of organizational absorptive capacity has been on the business sector. In spite of these limitations, absorptive capacity is a potentially powerful conceptual framework for exploring external knowledge acquisition by public and nonprofit organizations.

The following three sections consider the study of capacity in the nonprofit sector and the emergence of absorptive capacity in the health services delivery and violence prevention literatures.

The Study of Knowledge Capacity in the Not-for-Profit Literature

Public and nonprofit organizations are increasingly knowledge-intensive enterprises (Faherty, 2006; Hume & Hume, 2008; Lettieri, Borga, & Savoldelli, 2004). In knowledge-intensive organizations, knowledge is an asset critical to mission achievement. Public and nonprofit organizations are less mature than many private sector organizations in their management of knowledge-related activities (Hume & Hume, 2008). In the adaptation of business management techniques from the private sector, the nonprofit sector has lagged behind the public sector (Denhardt, 2004). In the last ten years, building the capacity of the nonprofit sector to adopt and implement best practice models from public sector funders and service providers, research institutions, foundations, and the business sector has received substantial attention.

In the nonprofit literature, there is substantial writing—predominantly prescriptive—on capacity and capacity building. Much of this literature is the result of inquiries funded by large, grant-making foundations that have an investment interest in the organizational performance of nonprofit service providers.

Organizational capacity building is directly related to whether a new program will survive and prosper once its original funding has ended. Thus, foundations actually deepen their own “exit problem.” If they want to see a program endure, much less replicated and built to scale, investments in nonprofit capacity building are essential. (Backer, 2001, p. 33)

Backer traces the origins of capacity building activities in foundations back to the 1970s.

Capacity building as a strategic focus is relatively new, starting in 1987 with the Ford Foundation’s Leadership Program for Community Foundations. Federal and state governments, associations, management support organizations, and academic centers and institutes also provide capacity-building support to nonprofits and local government.

Several authors pointed out the lack of an accepted definition of capacity (Cairns, Harris, & Young, 2005; Connolly & York, 2003; Flaspohler et al., 2008; Proscio, 2007; Sobeck & Agius, 2007), the need for the evaluation of capacity building efforts (Backer, 2001; Connolly, 2007; Kibbe, 2004; Light, 2004; Sobeck & Agius, 2007; Wing, 2004), and the need to build the capacity of the capacity builders themselves (Backer, 2001; Boris, 2001; Connolly & York, 2003; Ebrahim, 2004; Gibson & McCambridge, 2004; Grantmakers for Effective Organizations, 2008). The capacities recommended by key authors for development in nonprofit organizations are:

- Program delivery, program expansion, adaptive (Letts, Ryan, & Grossman, 1999)
- Organizational (McKinsey & Co., 2001; Kibbe, 2004; Light, 2004)
- Analytical, adaptive (Ebrahim, 2003)
- Human resources, financial, relationship and network, infrastructure and process, planning and development (Hall et al, 2005)
- Programmatic, organizational, adaptive (Sussman, 2004)
- Leadership, management, technical, adaptive (Connolly & York, 2003)

Collectively, the capacities identified by these key authors are those that are indicative of a well-managed organization, for-profit or not-for-profit. (See Appendix A for definitions of these capacities, by author.) The definitions are difficult to compare because, even when named similarly, they are at different levels of specificity. As a whole, they represent the core foundations of an organization: its purpose, strategy, structure, systems, culture, and human capital.

Of the capacities identified by key writers on nonprofit capacity building, adaptive capacity relates most closely to absorptive capacity. Adaptive capacity in Letts et al.'s (1999) conceptualization builds upon program delivery capacity and the way it supports the

organizational goals of learning, innovating, and improving performance needed for effectiveness and mission impact. Sussman's (2004) definition of adaptive capacity incorporates both the ability to adapt in response to new circumstances and to initiate change to improve performance. Sussman explicitly linked adaptive capacity to active information seeking from the external environment:

Organizations that have adaptive capacity are very focused on and responsive to what is happening outside their organizational boundaries. They consciously interact with their environments which, in turn, provide information-rich feedback, stimulate learning, and ultimately prompt improved performance. (2004, p. 3)

Sussman recommended a tight alignment and balance between the organizational, programmatic, and adaptive capacities for mission advancement. Ebrahim (2003), in reviewing the United States and global nonprofit capacity building literature, recommended nonprofits improve their analytical and adaptive capacities. Building analytical and adaptive capacity will allow nonprofits to learn from the data and information collected to meet funder and donor accountability requirements. Connolly and York (2003) identified adaptive capacity as the "most critical dimension of capacity for a nonprofit organization" (2003, p. 2), which they associated with learning and responsiveness to change.

Much of the literature on nonprofit capacity originates from private foundations, directly or indirectly, because these institutions have a stake in, and strong reservations about, the ability of many nonprofit organizations to deliver the programs or services the foundations fund. Although implicit in this literature is the need for external knowledge, there are no conceptual frameworks proposed for understanding a nonprofit organization's ability to value, acquire, and use external knowledge. A much more developed area of research that relates to these abilities is the

research-to-practice literature in health services and delivery because of its focus is on knowledge translation and knowledge diffusion for the spread of innovations.

Absorptive Capacity in the Health Services Delivery Literature

Organizations need new knowledge generated by governments, universities, and foundations to address many of society's most difficult social problems (e.g., violence, hunger, disease). Health services delivery researchers share evidence-based knowledge with policy makers, decision makers, practitioners, and consumers, and the knowledge translation and diffusion literatures address the mechanisms by which this knowledge reaches these audiences (Greenhalgh, Robert, Macfarlane, et al., 2004; Mitton et al., 2007; Sudsawad, 2007). The approach to the spread of health technologies and practices in evidence-based medicine has changed over time. Three stages of evolution occurred: first, there was a focus on changing individual clinician behavior; second, there was a recognition of the need for systems change, including individual and organizational behavior; and third, there was a recognition that evidence is open to multiple interpretations, underscoring the significance of local context, priorities, and competing power interests (Greenhalgh, Robert, Macfarlane, et al., 2004).

How to reduce the gap between research and practice is still an active debate, and the concept of absorptive capacity is entering this literature. Greenhalgh, Robert, Macfarlane, et al., (2004) conducted a comprehensive, systematic review of 213 empirical studies and 282 non-empirical papers or book chapters to address ways in which to spread and sustain health innovations. Their review identified 13 different research traditions, six of which were from organization and management literature. The knowledge-based approach yielded what the authors described as a "critical new concept ... the organization's absorptive capacity for new knowledge" (2004, p. 592), a prerequisite to the assimilation of innovations:

An organization that is systematically able to identify, capture, interpret, share, reframe, and recodify new knowledge; to link it to its own existing knowledge base; and to put it to appropriate use will be better able to assimilate innovations, especially those that include technologies. (2004, p. 606)

From the review of the literature, Greenhalgh, Robert, Bate, et al. (2004) developed a conceptual model for the spread and sustainability of innovations that incorporates the idea of absorptive capacity (p. 296). However, absorptive capacity is more narrowly defined in the model than it is described above. For example, a recipient, or adopting, organization's environmental conditions and organizational strategies that influence absorptive capacity are acknowledged but underdeveloped in the overall model, and are not shown to influence absorptive capacity. The authors did find some evidence for an environmental influence; they found a need for an alignment of the innovation with the right stage in the local and/or federal policymaking cycle, and for the innovation to be both technically feasible and congruent with organizational values (2004, p. 24). Nonetheless, the model is from the perspective of the outside innovator promoting the adoption and assimilation of an innovation; it is not from the perspective of an organization that is seeking new external knowledge. For example, it does not incorporate the external innovator's capacity to develop, or co-develop, targeted new knowledge or innovations to meet the needs of a health services provider organization in a particular operating environment. The lens is that of the outside expert pushing an innovation for adoption, rather than that of a service-providing organization developing an innovation or evaluating and selecting an innovation from an external source.

Absorptive Capacity in the Violence Prevention Literature

Community health literatures are raising the potential usefulness of the concept of absorptive capacity (Racine, 2006; Schoenwald et al., 2008; Taxman & Kitsantas, 2009),

although the concept of absorptive capacity is more narrowly conceptualized than in the strategic management literature. One in a series of reports commissioned by the Centers for Disease Control and Prevention (CDC) identified absorptive capacity as a type of general capacity for innovation implementation (Flaspohler et al., 2008). The CDC had commissioned research to recommend an effective means to bridge the gap between science and practice for the prevention of child maltreatment and youth violence. The goal of the research was to generate a framework to ensure the dissemination of scientifically proven strategies to reduce youth violence and child maltreatment in the general population. The research team conducted a review of literature and held discussions with experts on research utilization and violence prevention (Saul et al., 2008).

The CDC team set out to develop a framework to address a gap found in both the public health approach and the Institute of Medicine model of prevention research cycles (Wandersman, et al., 2008). Both approaches left unspecified the process step between new knowledge readiness (after testing and analysis) and the actual dissemination of the new knowledge (innovation) for widespread use. Figure 3 illustrates the steps in both the public health and Institute of Medicine research cycles, including the proposed new step intended to produce strategies for increasing the adoption and use of evidence-based prevention programming. The CDC team's work to increase the adoption and use of evidence-based programming led to the development of an Interactive Systems Framework (ISF). Table 3 summarizes the features of

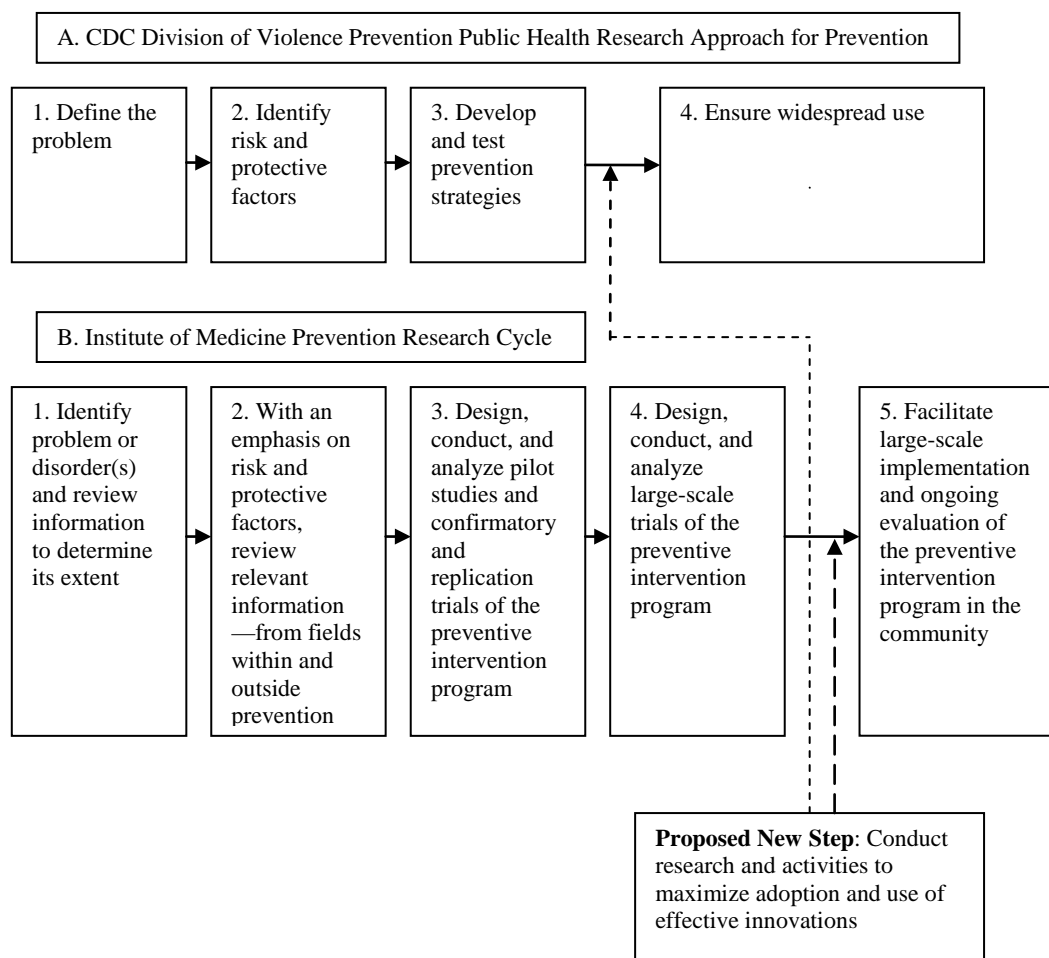


Figure 3. Illustration of steps in CDC public health and Institute of Medicine prevention research cycles with CDC Division of Violence Prevention proposed research activity step to maximize adoption and use of evidence-based programs.

the ISF. The purpose of the ISF is to guide thinking about how to bridge the gap between research and practice, and the focus is on capacity (skills and motivation). As Table 3 shows, there are three key systems or activity sets in the ISF: “implementing prevention,” “supporting the work,” and “distilling the information.” Distilling the information is the work of research scientists, with input from practitioners, to make the information more accessible to consumers in the field. Capacity is the focus of implementing prevention and supporting the work. The

Table 3

Elements of CDC Division of Violence Prevention Interactive Systems Framework (ISF)

System	Key Activities to Improve Widespread Adoption and Use
Implementing Prevention Delivery System	<ul style="list-style-type: none"> • General capacity use • Innovation-specific capacity use
Supporting the Work – Prevention Support System	<ul style="list-style-type: none"> • General capacity building • Innovation-specific capacity building
Distilling the Information – Prevention Synthesis Translation System	<ul style="list-style-type: none"> • Synthesis • Translation
Outer Contextual Factors	<ul style="list-style-type: none"> • Macro policy • Funding • Climate • Existing research and theory

authors grouped individual, organizational, and community factors that surfaced in their reviews into two types of capacities. The innovation-specific capacities were those needed to deliver a specific innovation, and the general capacities were those needed for an effective organizational functioning and structure (Wandersman et al., 2008). The categories of organizational innovation-specific capacities identified by the research team (Flaspohler et al., 2008) from empirical studies were:

- Fit with other organizational characteristics such as mission and internal capabilities
- Support demonstrated by administration with resource commitment
- Buy-in internally and community credibility
- Training and technical assistance for pre-service, in-service, and ongoing coaching

- Evaluation capacity for assessing effects and monitoring (2008, p. 188).

Categories of organizational general capacities identified were:

- Leadership
- Organizational structure/Management style
- Organizational climate
- Resource availability
- Staff capacity
- External relationships (2008, p. 189)

It was through the detailed examination of the capacities supporting innovation implementation that the concept of absorptive capacity was surfaced.

An absorptive capacity for new knowledge, identified in Greenhalgh et al.'s research on the diffusion of innovations (2004), was grouped with general capacities at the individual level (Flaspohler et al., 2008). In contrast to the strategic management literature, absorptive capacity in the CDC sponsored research does not encompass the assimilation and application of new external knowledge and it is not at the organizational level. However, the general and innovation-specific capacities identified by Flaspohler et al. (2008), particularly at the individual and organizational levels, do correspond with the dimensions of the more fully conceptualized model of organizational absorptive capacity, as developed by Lane et al. (2006). Table 4 shows examples of this correspondence. The research team assembled by the CDC was clear that their scope did not include examining the traditional evidence-based research process, in which the scientific community controls the problem identification and intervention development and testing. In their second report in the series, they did note that organizational decision making,

Table 4

Examples of Correspondence Between CDC-Identified Organization Capacities Needed For Prevention Innovation Adoption and Use With Dimensions of Absorptive Capacity Model

CDC-Identified General Capacity	CDC-Identified Innovation-Specific Capacity	Absorptive Capacity Dimension
Staff skills, education, and expertise	Ability to select appropriate innovations	Characteristics of internal and external knowledge
Clear, articulated vision/mission statement	Formal organizational commitment	Firm strategies
Receptive context for change	Staff agreement on program values	Mental models
Adequate training	Ongoing consultation and coaching	Learning relationships
Presence of data capture systems	Ability to develop a monitoring system	Structures and processes
Inter-organizational networks, collaborations	Credibility of program within the community	Environmental conditions

resources, and environmental factors appear to interact with each other in complex ways, and

organizational factors interact with the characteristics of the innovation itself because

innovation-specific capacities are necessary for implementation (Wandersman et al., 2008).

They found an absence of empirical research on capacity that addresses the link between

community-level factors and the implementation of prevention innovations, suggesting the need

for research in this area.¹² In their capacity research, the CDC team focused on the individual

¹² This is different from research confirming the efficacy of community level programs for preventing youth violence. The focus in this paper was on factors that demonstrate community capacity for implementation of prevention innovations.

and organization capacities held or needed by the organization receiving the new knowledge. They did not address the capacities of the research organization to develop, disseminate, and support the adoption and use of the new knowledge.

In the fourth report of the CDC research team's series on bridging science and practice, the authors outline 10 key challenges that surfaced in discussions (Saul, Wandersman, et al., 2008). The authors acknowledge that the practitioner organizations operate in complex environments that have multiple layers and systems. The 10 key challenges that emerged are presented in Table 5. From the perspective of an organization seeking new knowledge in violence prevention programming, these challenges directly relate that organization's absorptive capacity for this external knowledge, such as the internal and external characteristics of the external knowledge, the learning relationships, and the environmental conditions. This research advances the commitment of experts in youth violence prevention to making new knowledge available and accessible. It acknowledges the challenges research organizations face in dedicating resources to synthesizing and translating research for practitioner consumption and use. It also recognizes the complexities of environments in which practitioner organizations operate. However, the perspective does not provide an integrated, organization-driven perspective through which to understand service-providing organizations' capacities to seek, acquire, and use new external knowledge. Absorptive capacity is interpreted narrowly as an individual-level capacity rather than recognized as a potential model through which to understand knowledge acquisition-related activities.

Table 5

Ten Key Challenges in Prevention Synthesis and Translation System Identified by CDC Research Team

Category	Key Challenge
Distilling the Information – Prevention Synthesis Translation System	<ol style="list-style-type: none"> 1. Lack of support for synthesis and translation activities [of researchers]. 2. Lack of clear guidance for practitioners on accessing research synthesis. 3. Lack of access to existing prevention support [for practitioners]. 4. Lack of systematic, high-quality prevention support [for practitioners].
Supporting the Work – Prevention Support System	<ol style="list-style-type: none"> 5. Lack of prevention infrastructure [for practitioners]. 6. Need to better understand implementation process [of practitioners]. 7. Lack of in-depth information on adaptation and transportability of innovations, particularly when the innovation is a well-defined program [for practitioners]. 8. Need for increased strategic planning, implementation, and evaluation at the local level [by practitioners].
Cross System Issues	<ol style="list-style-type: none"> 9. Need for greater understanding and communication between practitioners and researchers. 10. Need for more cooperation and coordination in violence prevention efforts [within and between practitioner and research organizations].

Conclusion

Related literatures—nonprofit capacity building and knowledge transfer in health services delivery and violence prevention—fail to provide an organization-centered model from which to understand the factors that influence a public or nonprofit organization’s ability to value, acquire, assimilate, or apply new external knowledge. Researchers that focus on new knowledge for health services delivery and violence prevention programming have identified absorptive capacity as a promising concept to explore.

Research in absorptive capacity drew on the contributions of organizational learning theorists. These theorists offered such key concepts as the ability of organizations to learn (Cyert & March, 1963), organizational learning being more than the sum of individual learning (Hedberg, 1981), the cumulative or path-dependent nature of organizational learning (Nelson & Winter, 1982), and the need for both exploratory and exploitative learning to adapt to a changing environment (March, 1991). The study of absorptive capacity originated in the context of industrial research and development (Cohen & Levinthal, 1989, 1990) because economists a) had not recognized that there were real costs to the assimilation of knowledge from the public domain, and b) had not considered that the assimilation and application of external knowledge contributed to building a learning capability, or absorptive capacity. Absorptive capacity's roots in research and development provide an important context for understanding the acquisition of external knowledge:

- Knowledge is domain specific;
- Knowledge is cumulative;
- Difficult knowledge will transfer more successfully between partners with shared problem areas and a collaborative relationship; and
- Ongoing investments in absorptive capacity increase the ability of an organization to acquire and assimilate new, relevant knowledge.

For this study, themes from the absorptive capacity empirical studies in the strategic management literature suggest how its exploration in public and nonprofit organizations will yield different insights about how decision makers think about and approach new external knowledge. In the for-profit sector:

- Competitive advantage is a key motivator in decisions to learn and innovate.
- Product and process learning takes place in a laboratory or controllable environment.

- With the right configuration of resources, problems are solvable and outcomes are quantifiable.

This is considerably different from the world of public and nonprofit organizations that grapple with complex, wicked problems. Weber & Khademian (2008) point out challenges in addressing wicked problems:

- Multiple policy domains and numerous stakeholders have interests, often conflicting.
- Cause and effect are very difficult to pinpoint, and potential solutions have impact on other policy domains, sectors, organizations, and/or individuals.
- Problems are not finally solvable.

Organizations that deliver services or programs in response to wicked, complex problems are less likely than organizations in the business sector to have internal research and development capabilities. Therefore, when seeking knowledge, they are more reliant on acquiring external knowledge. Because the absorptive capacity model takes into account the influence of an organization's environment on its capacity and its investment in its capacity, the model is especially well suited for use in further understanding knowledge-related challenges in nonprofit and local public organizations. Policy agendas, stakeholder interests, and external funding are forces in the public and nonprofit sector environment.

Chapter 3 sets forth the research design for this study of decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are, or are not, adopted at the local level.

Chapter 3: Research Design

This chapter presents the qualitative research design for this research study. Beginning in the 1970s, it became more widely accepted to use the qualitative approach—by itself or in combination with quantitative methods—when studying public policy and social problems (Ritchie & Spencer, 1994). In qualitative research, interviews, observations, documents and/or other visual materials are the typical sources of data (Corbin & Strauss, 2008; Creswell, 2003; Patton, 2002). For this project, the data source is in-depth interviews conducted in three cities. This chapter consists of five subsections: an overview of the methodological approach, the context for the larger study within which this research falls, the study's sampling and participant recruitment, the data collection strategy, and the data analysis strategy.

Methodological Approach

This study addressed the following problem: Many youth-serving agencies at the local level do not adopt innovative, evidence-based programs and practices for the prevention of violence by youth. The purpose of this research was to explore a sample of community-based decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are, or are not, adopted at the local level. The specific research questions posed were:

1. How do decision makers describe the decision process to adopt or not adopt new programs for youth?

2. What factors do decision makers perceive to be impediments or facilitators to the adoption of new programs for youth?

Qualitative inquiry approaches are best suited for broadly framed research questions that are exploratory in nature (Corbin & Strauss, 2008). This study was a qualitative, reality-oriented inquiry (Patton, 2002). The approach for this study was to examine collective case studies through in-depth interviews. The case or unit of analysis was the organization, which allowed the organizations to be studied individually and in comparison to each other (Patton, 2002, p. 447). Corbin and Strauss (2008, pp. 39-40) pointed out that starting a qualitative study with an existing theory or conceptual model is acceptable as long as the researcher remains vigilant against pressing the data to fit the theory or model. This type of analysis requires openness to emerging meanings and interpretations, including any that do not fit with existing theories or models.

Study Background

This research utilized interview data pertaining to the barriers and supports to the implementation of programs to prevent youth violence. The Clark-Hill Institute for Positive Youth Development at Virginia Commonwealth University is conducting the original study. The Institute is one of 10 National Academic Centers of Excellence for Youth Violence Prevention, funded since 2005 by a grant from the Centers for Disease Control and Prevention. This researcher is a volunteer member of the team, joining after the completion of the majority of the interviews, and a contributor to data analysis and reporting. The Clark-Hill Institute's research team sought the perspectives of decision makers—those who shape policy and implement programs—to further their understanding of the challenges to programming in youth violence prevention.

The Institute's barriers and supports study flowed, in part, from the CDC's research priority to understand the gap between prevention science and practice. In 2005, the CDC's Division of Violence Prevention began an investigation into this gap (Wandersman, Duffy, et al., 2008). In one of a series of recent papers from this research, Flaspohler, Duffy, et al. (2008) proposed a general taxonomy for research dissemination-implementation that differentiated capacity along two dimensions: level (individual, organizational, community) and type (general capacity, innovation-specific capacity). The taxonomy, drawn from research literature, is not specific to the ability of an organization to absorb external knowledge, although many of the capacities identified can map onto the dimensions of the absorptive capacity learning process model.¹³ Because the interviews conducted for the Institute's larger study were used, this author's research contributes to the knowledge base for the dissemination-implementation gap by analyzing the perceptions of individuals who shape policy and implement programs.

Sampling and Participant Recruitment

This section reviews the sample size, sampling strategy, and the recruitment and human subject protections accorded to the participants.

Sample size and sampling strategy. In comparison to quantitative studies, which use probability sampling to generalize findings to a larger population, the sample sizes of qualitative studies are small. Ideally, sample sizes are dictated by a goal of theoretical saturation; however, in reality, time and cost must be considered. Moreover, theoretical saturation still can occur even when not explicitly built into the strategy. A reasonable way to proceed is to establish minimums, because a key criterion is the richness of the information rather than the size of the sample (Patton, 2002). The original study's research team used stratified purposeful sampling as

¹³ The full lists compiled by the CDC research team are in Flaspohler, Duffy, et al. (2008, pp. 186-190).

its primary sampling strategy. Purposeful sampling yields data for in-depth analysis of issues related to the inquiry. Stratification within purposeful sampling facilitates comparisons of characteristics among subgroups within the sample (Patton, 2002).

The three urban cities selected were roughly comparable in their youth crime rates and culture, and distinctly different in their government structures. The aim in the Institute's study was to interview a minimum of eight individuals in each of the three cities who were in decision-making positions in government, public or private nonprofit agencies, and local funding organizations. These individuals were to be in a position to have direct knowledge of youth services programming within their organization and their urban area. Representation from key youth-serving subsectors was critical for understanding the issues from multiple institutional stakeholder angles. The subsectors represented were: arts and culture; education; health care; juvenile justice; law enforcement; mental health; philanthropy; public health; parks and recreation; and social services. In addition to sector and subsector representation, there was an intentional effort to recruit individuals in higher level decision-making positions within the respective organizations because they shape policy and/or program efforts.

Members of the research team developed a list of potential interviewees in the three target cities: Charlotte, North Carolina; Jacksonville, Florida; and Richmond, Virginia. The team members identified the potential interviewees through searches of government, community, and business websites and newspaper archives for each of the three communities. For human service organizations, a youth-serving mission was the criteria for inclusion. In compiling the lists for each city, the team made an effort to identify individuals at comparable levels in similar organizations. The original list, completed in November, 2007, had 93 contacts who met the location, sector/subsector, staff level, and mission criteria.

Recruitment and human subjects protections. From the compiled list of 93 potential interviewees, and using the IRB approved protocol, the research team followed a three-step process in participant recruitment in the early spring of 2008. First, a letter mailed to each potential interviewee a) gave the context and purpose of the project, b) described the nature of and proposed method for collecting the information from participants, c) invited participation and noted that a team member would follow-up, and d) gave the name of and contact information for the Project Director to answer preliminary questions. (See Appendix B for copy of letter.)

Second, follow-up telephone calls to each individual a) responded to any questions about the project, b) verified that the person would be an appropriate fit for participation, c) gauged their interest in participation, and d) obtained their verbal consent to participate in an interview expected to take 40 to 70 minutes. (See Appendix C for this pre-interview script.) If the person consented, a date and time for the interview was scheduled. If the person declined to participate in the interview, was not the appropriate person to interview, or had resigned, the team member asked for a referral to another knowledgeable individual, preferably one who was within the organization, or outside of the organization if that was the best option. In these situations, the team member also asked permission to use the referring individual's name in the follow-up contact. The final list had 43 confirmed interviewees.

Third, prior to the interview and based upon preference, the team sent each participant an abbreviated list of interview questions via email, fax, or regular mail. The abbreviated list consisted of six questions adapted from the full interview schedule. Making these questions available prior to the interview gave participants an opportunity to think in advance about the issues that would be raised and to pull together any pertinent documents.

At the interview—but prior to commencing with the questions—the participants were asked to read an information form that explained the purpose and the importance of the project, the participants’ rights, how the data would be used, confidentiality and privacy protections, and which included the phone numbers and e-mail addresses of the principal investigator for questions or concerns about the project. The participants were asked for verbal consent to participate in the project. Verbal consent was audiotaped.

Data Collection

This section describes the interview instrument, interviewer training, and the interview schedules and settings.

Interview instrument. The final interview instrument was semi-structured and comprised of open-ended questions with suggested probes. (See Appendix D.) The research team developed and pre-tested the instrument, refining the questions and their order based upon feedback and discussion.

Interviewer training. A faculty member on the research team trained the interviewers in the effective interviewing of adults. The interviewers practiced the protocol and received individual feedback prior to conducting the interviews with the study participants.

Interviews and settings. The interview team conducted the majority of the interviews in April, May, and June of 2008. All but three of the completed interviews were in person. The face-to-face interviews occurred in the participants’ offices or in a conference room to ensure privacy. For the telephone interviews, each participant confirmed that the setting was private. All interviews, in-person and by telephone, were audiotaped with the participants’ consent. No participants declined to have the interview taped. The interviewers also made notes during the interviews for follow up during and after the interviews.

Preparation of the interview data involved several steps. Transcriptions were made of the audiotapes, with the date, time, interviewer initials, and transcriber initials applied to each. The transcript of each interview was read in its entirety. Misspellings, inaudible words or phrases, and other errors were marked for correction on the electronic copy of each transcript, and page numbers were applied.

Use of interviews as secondary data. This research utilized interviews that were designed, collected, and transcribed by members of a team that the researcher did not join until after the study had begun. Therefore, the interviews constitute secondary data. Secondary data typically brings to mind quantitative data sets, even though texts have a long history of secondary analysis after their original writing and/or communication—such as the analysis commonly performed in the fields of literature, history, mass communication, and political science. In this study's context, the appropriateness of using the interview transcripts meets the criteria applied to secondary data: fitness of purpose, appropriateness of sample, and quality of data (Fielding, 2000).

The purpose of the original study was to explore the barriers to the adoption of youth violence prevention programming in three communities as understood by administrators and managers in local government and nonprofit organizations. The research questions of the original study and this researcher's study overlap in purpose, and both studies are exploratory in nature. The original study took a purer inductive approach to the establishment of coding categories; this study employed an a priori conceptual model for the first round of coding. In the present analysis, the absorptive capacity model's dimensions were the a priori general coding domains. Coding within the domains, and in establishing subcategories in the second round of

coding, was inductive from the texts of the transcripts. An initial reading of the transcripts provided the opportunity for an initial assessment of fitness of purpose.

The sampling strategy used by the original study was appropriate for this one. Administrators and managers, as organizational decision makers, are the individuals who define their firms' strategies in knowledge acquisition-related activities. They were valuable key informants because they held in-depth knowledge of their organizations and operating environments. The inclusion of organizations from multiple localities allowed for comparisons based upon geographical location.

This researcher participated in an initial read-through of the transcripts for inaudible words, misspellings, and other errors. By carefully reading the transcripts and paying attention to both the content and the interview effects, the data quality was assessed. The following section describes in more detail the results of the detailed screening of each interview for inclusion in this study.

Suitability of particular interviews for research purpose. Suitability of purpose, or a confirmation that the transcripts' contents aligned with the research purpose and research questions, was determined during this researcher's initial involvement in the project. This involvement occurred during the development of the coding and analysis plan for the original study and the initial reading of the transcripts. Both studies focused on supports and barriers to programming for youth violence prevention; however, the original study did not approach the coding and analysis from a knowledge capacity perspective. For this research study, the suitability of the interviews was double-checked prior to the first round of coding. The nature of the organization's work, the organizational position of each interviewee, the substance of each

interview, and the alignment of interviews across the three cities received additional consideration in this phase.

Establishing data set and coding framework. Working with full transcripts for data analysis preserves the language used by the participants and allows for exploring nuances of meaning (Richards, 2005). For this study, the interview transcripts were imported into N7 software, which is designed for qualitative analysis (N7, QSR International, 2005). N7 software facilitates the ongoing interplay between the act of data coding and the intellectual process of data analysis such that they part of an iterative process (Richards, 2005). After the numbered interviews were imported, the absorptive capacity dimensions were set up as a priori categories for the first round of coding.

The detailed reading of transcripts during the first round of coding led to the elimination of ten transcripts from the original study's set of 38. The reasons for exclusion from the current study were as follows: five interviewees represented funding intermediaries (#3, #4, #16, #19, #35), three interviewees were not in decision-making positions for youth programming (#14, #20, #26), two interviewees participated in the same interview (#15), and one transcript was a duplicate of another transcript (#22 of #8). Table 6 displays the rationale for exclusion and the interview transcript number for each interview excluded from the final data set.

Interviews #3, #4, #16, #19, and #35 involved funding intermediaries. A close reading of these transcripts made it clear that the interviewees' perceptions were sufficiently different to complicate the coding and dilute the thematic analysis. While funding intermediaries, who are both knowledge receivers and knowledge providers, are important to the study of absorptive

Table 6

Rationales for Exclusion of 10 Interviews from Final Data Set

Rationale for Exclusion	Interview Number
Interviewee represented funding intermediary	3, 4, 16, 19, 35
Interviewee not involved in decisions about youth programming	14, 20, 26
Two interviewees in single interview	15
Duplicate transcript of interview #8	22

capacity, their inclusion in this study was not appropriate. The original transcript of interview #8 was lost, and an interview with a decision maker from another organization was conducted to replace it. However, the replacement interview was not in the team's final set, and the transcript of interview #22 appeared in both positions #8 and #22. Therefore, since #8 and #22 were of the same interviewee and the content was identical, #8 was coded and analyzed and #22 was excluded. For transcript #15, two interviewees in a reporting relationship participated in the interview simultaneously. In such a situation there is an increased likelihood that neither interviewee spoke as candidly as they would if interviewed separately. Possible reactivity on the part of one or both participants was the reason for excluding this transcript. Lastly, excluded transcripts #14, #20, and #26 were of interviews of participants who were not in decision-making roles relative to the acquisition of new knowledge for the adoption of programs for youth. These individuals were in following positions: Program/Office Manager, Communications Specialist, and Executive Director of Community Relations.

After screening the initial set of transcripts, there remained 28 interviews with decision makers in the three cities: 10 in Charlotte, nine in Jacksonville, and nine in Richmond. These interviews contained 400 pages of transcript, about 14 ¼ pages of single-spaced transcript per interview on average.

Data Analysis Strategy

This section explains the strategy used for coding and analysis of the interview transcripts. This includes the iterative process of coding and analysis, the analytical techniques, establishing the credibility of the analysis and findings, and the researcher's qualifications and credibility for this research study.

Innovations in evidence-based prevention science are developed by universities, research institutes and centers for adoption by youth serving agencies such as those in this current study. An innovation in this sense is information or knowledge developed by an external source that could be of value to a potential adopter-user. This innovation could be about evidence-based programs, policies, processes, or principles (Saul, Wandersman, Flaspohler, Duffy, et al., 2008). An innovation relevant to prevention programming in youth violence might be, for example, more effective strategies for helping youth develop skills or knowledge useful in managing potentially volatile situations with their peers. Innovations developed by prevention scientists typically become available to youth serving agencies in the form of potential new knowledge. This potential new knowledge becomes available after prevention scientists translate their work and disseminate it through different means, such as print (e.g., intervention program manuals, professional journals), electronic means (e.g., discipline-relevant electronic newsletters), or oral presentation (e.g., conferences, training sessions). Individuals within the youth serving organizations, in turn, must be exposed to the new knowledge, understand it, and find it valuable

in order for it to be acquired for potential use within their organizations. If the individuals are exposed to the new knowledge, understand it, and find it valuable, then the new knowledge must be assimilated and applied by the organization through integrations into existing programs or the development of new programs. The two research questions for this study were: How do decision makers describe the decision process to adopt or not adopt new programs (i.e., new knowledge or innovations) for youth? What factors do decision makers perceive to be impediments or facilitators to the adoption of new programs for youth? It is through this absorption of new external knowledge about advances in evidence-based science that effective programs can be adopted and/or ineffective programs can be modified or replaced, which is a key concern of youth violence prevention researchers.

Interplay between coding and analysis.

Coding and analysis process. Sub-questions were developed in the early read-through of the transcripts. The sub-questions were:

1. How do decision makers describe the decision process to adopt or not adopt new programs for youth?
 - a. Who is involved in decisions to develop or adopt new programs?
 - b. Are these decision makers internal or external to the organization?
 - c. What are the roles of these decision makers relative to the organization?
 - d. What factors do they consider in the decision to develop or adopt new programs?
2. What factors do decision makers perceive to be impediments or facilitators to the adoption of new programs for youth?
 - a. What is the nature?
 - b. What is the source?
 - c. What is the locus (internal or external) to the organization?

d. What is the perceived impact of the factor?

For question 2, eight a priori coding categories (parent tree nodes) were set up in the NVivo's N7 software program to represent the external and internal antecedent dimensions of absorptive capacity. The eight a priori categories were reduced to six after a thorough re-reading of the transcripts. The two categories eliminated were external knowledge characteristics and internal learning relationships. The content of the interviews simply did not lend themselves to coding these two dimensions. In neither instance could the absence of data be suggestive of important findings. Therefore, the final six a priori categories were:

1. Environmental conditions (external characteristic)
2. Learning relationships (external characteristic)
3. Knowledge characteristics (internal characteristic)
4. Mental models (internal characteristic)
5. Structures and processes (internal characteristic)
6. Firm strategies (internal characteristic)

Each of these categories had written definitions, derived from this study's review of the literature, to guide the first round of coding and analysis of the interviews. During the iterative coding and analysis process, second level categories emerged. The absorptive capacity literature, examined in Chapter 2, provided some guidance in the establishment of the second level categories. Table 7 shows the absorptive capacity coding categories that were established. (See Appendix E for codebook.)

This research used open coding in which the transcriptions were broken apart for the purpose of assigning blocks of raw data to categories (Corbin and Strauss, 2008, p. 195). Each interview transcript was a unit, and pertinent portions of the transcript were coded into all

appropriate categories. The portions of the interview transcripts that corresponded to the question on how decisions are made about which programs to implement were coded and analyzed for research question #1. For those interviews in which the question was not posed, the transcript was searched in its entirety. (The interviewers had been instructed to avoid asking a question if the interviewee had answered it earlier in the interview.) For research question #2, two approaches accommodated the flow of the semi-structured interviews. For some of the coding categories, portions of the transcript coded were predetermined based upon the content of a question in the original interview. However, if a transcript did not have information in the response to the aligned question, the review was of the entire transcript for potentially relevant material. For other categories, the review began with the entire interview transcript for relevant texts.

Table 7

Coding Categories, Loci, and Coding Guidance

Dimension	Locus	Dimension's Influence and Examples
Environmental conditions	E ^a	<p>Drive <i>incentives</i> for developing absorptive capacity for external knowledge</p> <ul style="list-style-type: none"> Comments about the operating environment, including such things as economics, culture, laws or regulations, media, geography, politics
Learning relationships	E	<p>Drive the <i>ease</i> of understanding external knowledge</p> <ul style="list-style-type: none"> Comments about the type or nature of partnerships with people or organizations that hold specialized knowledge
Knowledge characteristics	I ^b	<p>Drive the <i>depth and breadth</i> of understanding external knowledge</p> <ul style="list-style-type: none"> Descriptions of decision-maker credentials, length of service, professional affiliations, educational background, etc.
Mental models	I	<p>Drive the <i>creativity</i> of recognition, assimilation, and application of external knowledge</p> <ul style="list-style-type: none"> Comments that reveal decision makers' expectations or aspirations or understandings of the rules of the road relative to their organization or to their organization's operating environment
Systems, structures, processes	I	<p>Drive the <i>efficiency and effectiveness</i> of assimilation and application of acquired external knowledge</p> <ul style="list-style-type: none"> Comments or descriptions about internal infrastructure supports for knowledge related activities
Firm strategies	I	<p>Drive the <i>focus</i> of recognition and understanding, assimilation and application of external knowledge</p> <ul style="list-style-type: none"> Comments about plans that influence the direction of future knowledge acquisition strategies

Note. ^aE = external to the organization. ^bI = internal to the organization.

The distinction in coding approaches derived from how well the pertinent portions of the transcripts clustered together. For some nodes, data tended to cluster around related questions. For other coding categories, relevant material existed in different portions of the transcripts across interviewees. Table 8 summarizes these approaches and how the coding categories mapped, generally, to the transcripts. For both approaches, over-coding—the coding of information that was unnecessary for answering the research questions—was avoided. It was also not the goal to produce frequency counts of the number of mentions of the same concept or theme (coding category) within a single transcript. For example, if an interviewee mentioned more than once their concern about state funding reductions affecting their program, it was not necessary to code it as such each time. If there were nuances or additional insights, this was important information; if not, it was dross. For the portions of text coded, enough of the context was included with each block of transcript to ensure accurate interpretation later. This often included the question posed by the interviewer.

For the a priori category of structure and processes, there were too few portions of text coded to include in the analysis. Decision makers spoke less about their organizations' systems for measuring performance or success than about how they define success. Consequently, the dimension of structure and processes was dropped.

Technical and academic literature informed the coding structure and the analysis. In addition, there were separate notes or reflections written about the data along the way (Corbin and Strauss, 2008; Richards, 2005). In addition to the coding of underlying concepts, numeric codes that represent organization, geographical location, organization type, organization size,

Table 8

Portion of Transcript Used for Coding and Analysis of Dimensions

Absorptive Capacity Dimension	Locus of Dimension	Primary Portion of Transcript
Environmental conditions	External	Entire transcript
Learning relationships	External	Entire transcript
Knowledge characteristics	Internal	Organizational background and professional experience
Mental models	Internal	Entire transcript
Structure and processes	Internal	Measures of program performance or success
Firm strategies	Internal	Plans for programs and services

respondent position type, and respondent educational level were associated with each respondent's record for further analyses. During the interpretation phase, the literature was consulted again for insights and for verification.

Analytical Techniques

As the coding and analysis progressed, constant comparison and looking for the negative case content were the two techniques employed (Corbin and Strauss, 2008). Constant comparison allowed for the comparison of similarities and differences during the classification and analysis of the data to “differentiate one category theme from another and to identify properties and dimensions specific to that category theme” (2008, p. 73). For example, texts were examined for category fit during coding—did it properly belong in the coding category or did it suggest yet another idea or perhaps lend itself to coding in multiple categories for revisit during later analysis? Looking for and including the negative case guarded against coding only

“like” perspectives, which allowed for full development of the dimensions of absorptive capacity and enabled cross comparisons. In qualitative analysis, the lack of a mention or reference is also meaningful, so gaps were considered as well. Sample quotes are provided in Chapter 4 to illustrate the coherence of the conceptual categories. Every attempt was made to select quotes a) in proportion to the number of coded texts in that category, b) from each locality, and c) representative of the range of views held by the interviewees. Finally, a conceptual map (Miles & Huberman, 1994) in Chapter 4 of this document shows the proposed relationships between the concepts and patterns that emerged during the analysis and interpretation of findings.

Credibility

Three strategies recommended by Patton (2002) establish the credibility of the analysis and findings. Negative cases, or cases that represented a different viewpoint, were always included in the coding process and analysis process. Negative cases that present themselves as an absence of data were also taken into account. Consideration of rival or alternative conclusions occurred during the final analysis phase and in the consideration of the limitations of the study. The N7 software automatically generated audit trails for review. The data were audited by the researcher in three ways. For the coding categories, or nodes, that were mapped to specific interview questions, the transcripts were audited to verify which respondents were asked the specific interview questions. Node coding summary reports were used to review each parent and child node to ensure internal, definitional consistency of coding within the nodes. Each transcript was double-checked against the coding summary reports to ensure that the coding map was accurate, as shown in Table 6, and that each transcript was coded as the map prescribed.

Role, Qualities, and Credibility of Researcher

In contrast to studies utilizing a quantitative methodological approach, there is an especial expectation that qualitative researchers demonstrate self-awareness of the values, motivations, or experiences that might influence their research. This prerequisite typically arises in the context of potential biases that surface when selecting subject matter or interpreting data. My employment background includes positions in the business, government, university, and nonprofit settings. My professional and volunteer experiences encompass direct service delivery, planning and management, information systems development, and research in organizations as wide-ranging as partner-led corporate environments to state government to an all-volunteer nonprofit agency. My academic studies include the fields of criminal justice, sociology and qualitative evaluation methods, library and information science, nonprofit and business management, and public policy and administration. This multi-sector and interdisciplinary blend of academic training and professional experience provides this researcher with the ability to comprehend and distill relevant literature from multiple fields and to see the possible similarities, dissimilarities, connections, or disconnections within and across sectors and subsectors. It also encourages a systems view of organizations and communities.

Chapter 4: Findings and Interpretations

The purpose of this research was to explore a sample of community-based decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are or are not adopted at the local level. This study, which utilized interviews of decision makers for secondary analysis, focused on new, external knowledge and the organizational conditions or characteristics that facilitated or challenged its acquisition. The two guiding research questions were: 1) How do decision makers describe the decision process to adopt or not adopt new programs for youth? 2) What factors do decision makers perceive to be impediments or facilitators to the adoption of new programs for youth?

This study used the absorptive capacity model in the strategic management literature as a guide to explore external knowledge acquisition. For the purpose of this study, new external knowledge is an innovation in prevention programming that is developed by an outside organization, such as a research center, translated and disseminated in the form of new knowledge for adoption by youth-serving agencies. It is through the acquisition, assimilation, and application of this new knowledge from innovations in evidence-based youth violence prevention science that effective programs can be adopted and/or ineffective programs can be modified or replaced. Absorptive capacity is an organization's capability to recognize the value of new, external knowledge, and then to acquire it, assimilate it, and apply it (Cohen &

Levinthal, 1990; Lane & Lubatkin, 1998; Todorova & Durisin, 2003; Van den Bosch et al., 2003).

This chapter consists of five sections. In the next section, the three study cities are described. In the third section, the study participants are described, in general terms only, in order to explain their decision making roles while preserving their identities. In the fourth section, the findings of the qualitative analysis are presented, and in final section, the findings are interpreted.

The Study Cities

Each subsection below provides a description of one of the three study cities: Charlotte, North Carolina; Jacksonville, Florida; and Richmond, Virginia. For each of these U.S. southeastern cities, the descriptive information includes geographical location, political organization, best city rankings, major industries or employers, and selected education and crime statistics. Detailed demographic data is presented in Appendix F.

Charlotte, North Carolina. The city of Charlotte is the largest city in North Carolina, and the 19th most populated city in the United States. Geographically, Charlotte is located in Mecklenburg County, which is in the south central portion of North Carolina. Mecklenburg includes six other separately incorporated municipalities besides Charlotte, which is the county seat. The land area of the city of Charlotte is 242.3 square miles, and the whole of Mecklenburg County is 526 square miles. The city of Charlotte's governmental structure is the council-manager form with a mayor and 11 council members. The mayor is elected through a city-wide vote, serves a two-year term, and appoints the city manager. The council members are also elected for two-year terms; four members are elected through city-wide voting and seven members by voters who reside in the individual council members' districts.

In 2008, the metropolitan statistical area (MSA) of Charlotte NC-Summerville SC was ranked 10th of best performing cities among the 200 largest metropolitan areas in the U.S. Job growth in this MSA between March, 2007, and March, 2008, was 1.18%. It appears that the deteriorating U.S. economy took its toll, as this MSA slipped from 10th to 47th in 2009 and then to 62nd in 2010. In 2010, the major employers were Carolinas Healthcare System, Wells Fargo/Wachovia Corporation, Bank of America, Presbyterian Regional Healthcare, Duke Energy Corporation, and US Airways.

According to the North Carolina School Report Card, the state average SAT score in 2008-2009 was 1486 and 1492 in the Charlotte-Mecklenburg public school system. In 2008-2009, 68% of the public schools in this school system met the annual yearly progress benchmark; in 2009-2010, the number dropped to 59%. There are eight colleges and universities in Mecklenburg County: five private and three public institutions. Of the public institutions, two of the three are community colleges. The one public university is the University of North Carolina at Charlotte.

The North Carolina Department of Juvenile Justice and Delinquency Prevention reported a status offense rate of 1.69 per 1,000 and a delinquency rate of 29.38 per 1,000 in 2008 for Mecklenburg County. Both of these rates were lower than the statewide rates of 3.29 and 31.52, respectively. The status offense rate remained steady at 1.68 per 1,000 and the delinquency rate decreased to 25.67 per 1,000 in 2009. Again, both rates were lower than the state averages of 5.20 and 29.14 in 2009. Based on the FBI's Uniform Crime Report tabulation of index crime offenses known to law enforcement in Charlotte-Mecklenburg, the adult violent crime rate was 9.32 per 1,000 and the property crime rate was 61.86 per 1,000 in 2008. Both violent and

property crime rates dropped in 2009; the violent crime rate decreased to 7.23 per 1,000 and the property crime rate decreased to 49.55 per 1,000.

Jacksonville, Florida. The City of Jacksonville, on the northeast coast of Florida, is the largest city in Florida in population and land area, and the 11th most populous city in the United States. In October, 1968, Jacksonville and Duval County consolidated to form one municipal government, which uses the designation City of Jacksonville. The total land area is 874.3 square miles. Jacksonville is the county seat and the municipality has a strong-mayor form of government. The mayor and nineteen council members are elected to four-year terms, and the mayor has veto power over council resolutions and ordinances. Fourteen of the Council members are elected based on district representation and five are elected at large.

In 2008, the Jacksonville metropolitan statistical area was ranked 39th of the U.S. best performing cities among the 200 largest metropolitan areas. There was a negative job growth in this MSA of -0.11% between March, 2007, and March, 2008. Jacksonville's performance rating fell from 39th in 2008 to 141st in 2009, and then climbed to 120th in 2010. The major employers in 2010 were Naval Air Station, Duval County Public School System, Naval Station Mayport, City of Jacksonville, Baptist Health, Bank of America, Merrill Lynch, Blue Cross & Blue Shield of Florida, and Citibank.

According to the Florida Department of Education, the average SAT score in 2008 was 1472 statewide and 1421 in Duval County. In 2008-2009, 69% of the Duval County district public (non-charter) schools met the adequate yearly progress benchmark, and the percentage remained the same in 2009-2010. There are 12 colleges and universities in Duval County: nine private and three public institutions. Of the three public institutions, one is a public university and two are technical and community colleges.

The Florida Department of Juvenile Justice and Delinquency Prevention does not report delinquency rates nor does it report numbers or rates for status offenses. Statewide in 2007-2008, there were 116,234 delinquency referrals (60.64 per 1,000) for a juvenile population of 1,916,923. In Duval County, there were 6,444 delinquency referrals (64.85 per 1,000) for a county population of 99,364 juveniles during the same period. For Duval County in 2008-2009, there were 6,108 delinquency referrals (62.39 per 1,000) for a juvenile population of 97,898. Based on the FBI's Uniform Crime Report tabulation of index crime offenses known to law enforcement in Jacksonville, the adult violent crime rate was 9.96 per 1,000 and the property crime rate was 57.31 per 1,000 in 2008. Both violent and property crime rates dropped in 2009; the violent crime rate decreased to 8.36 per 1,000 and the property crime rate decreased to 51.58 per 1,000.

Richmond, Virginia. The city of Richmond, which is situated along the James River in central Virginia, is the capital of the Commonwealth and an independent city of 62.5 square miles. A popularly elected mayor and a city council govern Richmond City. The nine elected council members represent their districts and serve four-year terms; the council members elect from their membership a council president and council vice-president. Richmond is part of the Richmond-Petersburg MSA, which includes three other cities and 11 counties. This MSA is the third largest in Virginia.

In 2008, the Richmond MSA was ranked 102nd of the U.S. best performing cities among the 200 largest metropolitan areas. Job growth in this MSA between March, 2007, and March, 2008, was .52%. This MSA tumbled from 102nd to 118th in 2009 and then rebounded to 79th in 2010. In 2010, the top private employers were VCU Health System, Capital One Financial Corp., HCA Inc., Dominion Resources Inc., Bon Secours Richmond Health System, and Altria

Group Inc. The top public employers were the state government, federal government, and the governments of four localities: Chesterfield County, Henrico County, Richmond City, and Hanover County.

According to the Virginia Department of Education, the state average SAT score in 2008 was 1514. The Richmond Public Schools Department of Education reported a district average SAT of 1411 for the Richmond City public schools¹⁴. In 2008-2009, 78% of the Richmond City public schools met the adequate yearly progress benchmark, and in 2009-2010 this slipped to 62% of the public schools. There are eight colleges and universities in the metropolitan Richmond region: four private and four public institutions of higher education, which includes two community colleges.

The Virginia Department of Juvenile Justice does not report status offense or delinquency rates in its annual reports. Statewide, there were 12,380 status offense complaints (15.19 per 1,000) and 63,284 delinquency complaints (77.63 per 1,000) for a population of 815,207 juveniles in fiscal year 2008. For the city of Richmond, there were 450 status offense complaints (25.02 per 1,000) and 2,680 delinquency complaints (149.01 per 1,000) for a juvenile population of 17,985 in fiscal year 2008. For Richmond in fiscal year 2009, the number of status offense complaints dropped to 262 (14.77 per 1,000) and delinquency complaints dropped to 2,451 (138.23 per 1,000) for a juvenile population of 17,731. Based on the FBI's Uniform Crime Report tabulation of index crime offenses known to law enforcement in Richmond, the adult violent crime rate was 7.95 per 1,000 and the property crime rate was 40.81 per 1,000 in 2008.

¹⁴ This historical figure includes the scores for Maggie L. Walker Governor's School and could inflate the score by 100 points.

Both violent and property adult crime rates increased very slightly in 2009; the violent crime rate increased to 8.02 per 1,000 and the property crime rate increased to 41.08 per 1,000.

Sample of Key Informants

The sample of 28 decision makers included 10 interviewees in Charlotte, nine in Jacksonville, and nine in Richmond. The interviewees in the sample represented the fields of arts and culture, education, health care, juvenile justice, law enforcement, mental health, parks and recreation, public health, and social services. The representation distributed across the cities is described in Table 9.

Table 9

Number of Interviewees by Field by City

Field	City			Total
	Charlotte	Jacksonville	Richmond	
Arts & Culture	0	1	1	2
Education	1	0	0	1
Health Care	2	0	0	2
Juvenile Justice	0	3	1	4
Law Enforcement	1	1	1	3
Mental Health	1	0	1	2
Recreation	2	1	2	5
Public Health	2	1	1	4
Social Services	1	2	2	5
Total	10	9	9	28

All of the study participants were in decision-making roles at the time of the interviews. Over half were at the level of director or above, and the level of responsibility overall ranged in

scope from statewide operations to program management. Eighteen of the organizations were either local or state government institutions. Of the other 10, one was a private for-profit service provider, two were public/private providers, and seven were nonprofit organizations. In Charlotte, one health care facility was a public/private enterprise and one recreational athletics organization was a nonprofit. In Jacksonville, there were three private organizations, which were comprised of a nonprofit arts organization, a recreational athletics nonprofit, and a private juvenile justice facility that receives its funding through the state. In Richmond, one agency was a public/private provider of mental health services and four organizations were nonprofits: two community-based social service, one arts and culture, and one recreational athletics. (See Appendix G for a listing of fields and type of organization by transcript number by city.)

Research Findings

This section presents the research findings for the study's two research questions. The findings are in two subsections, one for each research question. The interpretations of the findings are discussed in a separate section following the presentation of the findings and evidence supporting the findings.

Research question 1. The first research question was: How do decision makers describe the decision process to adopt or not adopt new programs for youth? The key finding for this question was that a minority of the decision makers mentioned studies or best practices from professional literature (#11, #13, #25, #27, #28, #32). The majority of the interviewees did not mention consulting with experts—internal or external to the organization—or consulting research as part of the decision-making process for selecting programs related to their services. Other factors that influenced the choice of programs were:

- Pre-existing program within agency (#21)

- Political influence (#24)
- Market share (#31)
- Staff interests (#5)
- Informal feedback from youth or parents of youth (#6, #30, #34, #36)
- Needs assessment or data analysis (#2, #8, #32, #33, #37, #38)
- Services prescribed by legislative mandate (#7, #9, #10, #12, #29) or grant (#1, #17, #18)

One individual who oversaw a youth detention facility and had been in current position only two months at the time of the interview explained that the case managers make the decisions about youth programs (#23). Therefore, how the programs were selected could not be addressed.

Research question 2. The research question posed of the secondary dataset to explore the organizations' capacities for new external knowledge was: What factors do decision makers perceive to be impediments or facilitators to the adoption of new programs for youth? New programs were defined as a type of new external knowledge, as noted in Chapter 3. The absorptive capacity dimensions identified by Lane et al. (2006) were the first level analytical categories in the coding process. Emergent themes were established as second level categories within the dimensions. This section reviews the themes within each of the following five dimensions for which themes emerged:

- Environmental conditions (external characteristic)
- Knowledge characteristics (internal characteristic)
- Learning relationships (external characteristic)
- Mental models (internal characteristic)
- Firm strategies (internal characteristic)

Environmental conditions. A key theme that emerged was the instability of the fiscal environment. Concerns were prevalent in all three cities about the instability of funding for programs, both core to their mission and in youth violence (see 12 sample quotes in Table 10).

Table 10

Environmental Conditions: Financial Stability of Organization or Program – Sample Quotes

Financial Stability of Organization or Program	Interview
... and I work for a program that is driven by finding money to provide programs to children.	#2
... we're funded through the department of juvenile justice and you know we've gotten cut in the 12 years that this place has been here, it's been cut a couple of times, it's just uhh.	#10
Well the, the decisions are made based on funding ... the need is increasing but the funding for start-up is drying up, getting smaller.	#12
Um...to be truthful with you, the way it's been in the last several years, we have had to cut staff, so we, so far our focus is to maintain the quality of what we do, but we are doing a few less shows every year ...	#13
Basically I think that my program has survived because it is federally funded ... our grant is up for renewal in June of 09 ... we will know whether we are going to continue ...	#18
...we have case managers that monitor the juveniles that are here and assist them as they go through the process...A lot of that's, you know, probably depending on funding and everything, so ...	#23
We are really though, very, very fortunate in this county. We have strong support from our local officials for mental health, substance abuse, and developmental disabilities.	#25
Um, we, you know, as support people, we are always the first cuts to occur.... this year we are fighting a very tight budget with the county. And they provide our funding, our Board of County Commissioners. We have got to improve our partnerships and link our work.	#28
Our biggest issue right now is the declining economy ... we lost funding for a lot of our community contracts for parent education.... they've [Area Mental Health] taken over our contracts and they're going to fund them for a year so we can wait and see if we can get some funding next year.	#29
I've been in my position about a year and a half. We actually designed it into this year's budget. We couldn't have successfully filled this position.	#32
... issues that [agency] needs to address, everything from our windows to some of our flooring, um electrical systems, all those things ... Um, so, human resources, physical plant, financial resources and talking about the changing community.	#33
... we're non-profit ...wishing and praying ... it's a nice program, we don't get any money.	#34

There were only two interviewees of the 28 who did not specifically mention issues about funding. Decision makers in the three study cities who wanted to impact violence and prevention described their frustrations:

The people who make, who determine what money the health department gets and what money the, everybody gets except the hospital, but actually in a sense the hospital, but is the County Commissioners for our tax payer dollars. So if all you do is flooding the airways with childhood obesity, where do you think they're gonna spend the money? And I have, and I have two mandates, one unless my higher ups approve that they'll fund it once the funding is gone, and they have not funded any project once the funding has been gone, then um, then my problem is I can't consciously offer something to the public and then pull it from them. (#31)

But in terms of impacting directly violence issue, it's a funding issue, we don't have the funding to do it. We sort of try to do it where we can and sort of take it out of other grant dollars. (#17)

First of all, we [the state] don't do a youth survey. And when we don't do a youth survey, really it blocks your funding. I cannot go after the uh, Safe and Drug Free funds, and that's millions of dollars, because the reporting requirement is that you report from a youth survey. And I think in the future we're going to see a diminished capacity because that's what people want to see. (#38)

An interviewee in Charlotte recreation explained that substantial state funding will be directed to gang prevention and intervention:

... the North Carolina Street Gang Prevention and Intervention Act, it allows \$31 million to flow throughout the state uh for intervention and prevention programs only. Suppression does not get any of that money. Of the 31 million, 10 million will flow to Mecklenburg County. It hasn't started yet, they are going to train initiatives for different opportunities to write grants and proposals uh for those dollars. But at least it gives our community grassroots organizations and churches and parks and rec departments the opportunity to provide services that are currently holes in the net to catch all of our young people. (#37)

Collectively, the interviewees in the sample expressed strong concerns about the viability of their core programming, not to mention expanding into other deserving areas such as youth violence prevention, as reflected in the sample quotes. In fact, the only mentions of anticipated financial

support in the prevention of youth violence pertained to gang prevention and intervention in North Carolina, described above.

It was notable, also, that the interviewees did not identify over-arching strategies or recognized leadership for prevention programming in their operating environments. In City A, the key informants mentioned intervention strategies taken by individual organizations—such as family assessments in abuse cases (#9), and treatment, incarceration, and education programs in the juvenile justice system (#10, #12, #18)—but mentioned no community-wide violence prevention strategy aimed at youth. A cultural arts nonprofit organization executive director was not familiar with any programs for youth violence prevention in the community (#13). A public health director noted that the mayor’s new initiative to reduce violence showed “the promise for us was there may be an opportunity for us to do some real public health there and what were the causes of this violence” (#17). While the public health director expressed optimism at the potential, a director of a nonprofit social services agency observed that “the mayor tries to do a lot of things but doesn’t want to put any money into it,” resulting in “band-aid stuff” (#11).

There was no single organization or coalition named by the interviewees as having leadership in shaping a strategy for youth violence prevention in City A. A social services specialist said strategies are county-by-county, district-by-district (#9). A manager in recreational athletics organization referred to “pockets” of activity on youth violence prevention (#36). In addition to the mayor’s office, three other governmental institutions influenced efforts in youth violence. The state’s Department of Juvenile Justice (#10, #12, #18) makes decisions on treatment programs and funding for the localities and the State’s Attorney’s Office established youth mediation and youth diversion programs (#10). The Sheriff’s Office is “trying to do something about it, especially in certain areas of town” (#10) and the sheriff recognizes

that ultimately the things causing the violence are the larger community's issue, not simply a police issue (#17). Along with the need for funding of the mayor's community-wide initiative, there were key concerns.

In City B, the key informants struggled to name a community-wide strategy for youth violence prevention. The only specific violence-related initiative identified was a gang reduction and intervention program (#1, #2, #5, #32, #38) out of the Office of the State's Attorney General. The gang prevention program provides outreach to at-risk youth (#1) and has a mentoring component (#2). One program manager identified a local university as having a large initiative because they "receive a huge amount of funding" and commented that they do a lot, but the individual was not aware of all of what they do (#38). Other programs identified were peripheral to violence prevention for youth: a mentoring initiative for youth (#2) and a jail reentry initiative for men leaving prison (#32). A state-level juvenile justice director noted that a state office for substance abuse prevention also deals with violence prevention, but the individual was not familiar with the specific programs (#7).

Likewise, no single organization or coalition in any sector was named by the interviewees as having leadership in shaping strategy for youth violence prevention in City B. As a senior law enforcement official remarked, "I don't exactly understand what your question is, and whether I would be in a position to answer it ... because of some of the fragmented ways of how we do outreach to youth—it's just as fragmented as how we do healthcare" (#1).

In City C, decision makers identified efforts by individual organizations or networks of organizations but not a community-wide strategy in prevention of youth violence. A public health director indicated the area participates in Project Safe Neighborhood, a federal program for "getting the guns off the street" (#8), and anti-gang legislation had been enacted recently

(#37). A social services agency director described a recently implemented child welfare geo-model covering five districts which was intended to reduce “smokestack” service delivery in intake, investigations, and family interventions (#29). A school program manager noted that gangs, drop-outs, guns, bullying, and truancy were receiving the most attention in pre-kindergarten through high school, and gang issues were receiving the most attention at the state level (#24). A health care director summed up, “We’re not doing a lot of prevention in [locality]” (#31).

There was no single organization or coalition named by the interviewees as having leadership in shaping strategy for youth violence prevention in City C. One individual referred to “a lot of different avenues,” including a medical center’s teen health program, a program-based jail, and churches (#23). The school program manager identified three institutions that take the lead: mental health, schools, and police, including collaborations among these three institutions. The school program manager noted that city, county, and state government officials sit on a lot of the same committees (#24). Another interviewee referred to “all the main systems,” and named the Department of Juvenile Justice, area mental health, schools, police, the judicial bench, and county commissioners (#29). The community had a gang prevention coalition (#24, #25, #37) which was working on a community response to the increase in gangs (#25), and the legislature passed separate bills on gang suppression and gang prevention (#37).

In addition to strong concerns about the instability of funding for core and non-core programming, the localities had neither a community-wide strategy for prevention of youth violence nor an organization or coalition recognized as having leadership in shaping a strategy for youth violence prevention.

Knowledge characteristics. It was possible to glean information about the basic knowledge characteristics of the key informants from the interview transcripts. The questions posed early in the interviews were about the interviewee's background: their current position, length of time spent in the current position and at the agency, and a description of their responsibilities in their current position. In the course of responding to these questions, participants offered information about their educational backgrounds. Information about length of service in current position, advanced degrees, and specialized training were ascertained from the transcripts; the latter two pieces were not offered by all of the individuals, but are included here for what they do reveal about the sample.

In descending order of average length of service, individuals in Charlotte held their positions for an average of 4.45 years, Jacksonville for an average of 4.12 years, and Richmond for an average of 3.23 years. (See Appendix H for a listing of organizational subsector and length of time in current position by interview transcript number within city.) Six individuals in Charlotte had held their current positions for over two years, as had six in Jacksonville and four in Richmond. In descending order of frequency of mentions, more individuals in Charlotte held advanced degrees and more frequently mentioned professional training, followed by Jacksonville and then Richmond. This information is presented in Table 11. Based upon the overall average number of years in positions plus mentions of advanced degrees and professional training, Charlotte shows a greater clustering of capacity in internal knowledge characteristics. Of particular note, two individuals in Charlotte had direct professional experience with youth violence programming in a community setting, both in positions held previously in another city. One individual in Richmond had national certification in crime prevention.

Table 11

Internal Knowledge Characteristics: Clusters by City

City	Average Length of Service in Organization (years)	Number Holding Advanced Degree(s)*	Professional Certifications or Advanced Training*	Expertise in Youth Violence or Crime Prevention*
Charlotte	4.45	3	4	2
Jacksonville	4.12	2	2	0
Richmond	3.23	0	3	1

*Based upon mentions.

Learning relationships . The interview transcripts were reviewed in their entirety for mentions of partnerships or affiliations with knowledge organizations. This review surfaced relationships with local or state organizations, national organizations, and local universities. Eight of the 10 interviewees in Charlotte mentioned at least one of these types of relationships; the two that did not had been in their current positions for less than one year, specifically two months and nine months. There were mentions of affiliations with knowledge organizations by five of the nine study participants in Jacksonville, and seven of the nine participants in Richmond.

For the national or out-of-state level, examples from the three cities include national Project Safe Neighborhood participation, national Youth Risk Behavior Survey participation, training by the National Crime Prevention Institute, site visits to other cities and states (e.g., Arlington, Virginia and New York), and having an umbrella organization at the national level that coordinated the efforts of the local agencies. For in-state or local exposures, participants mentioned local agency alliances or collaborations, an advisory board comprised of

representatives from multiple fields (e.g., State's Attorney's Office and School Board), and attendance at local workshops.

Individuals in Charlotte and Richmond mentioned relationships with universities. In Charlotte, two people mentioned working with the University of North Carolina at Charlotte. In Richmond, one person mentioned partnerships with both the University of Richmond and Virginia Commonwealth University, and two others mentioned the latter.

Based upon the clustering of mentions of relationships with local or state organizations, national organizations, and/or local universities, capacity was greatest in Charlotte (15 mentions), followed by Richmond (11 mentions), and then Jacksonville (six mentions).

Mental models. In the learning process model, the characteristics of firm members' mental models directly influence their creativity in recognizing, assimilating, and applying knowledge (Lane et al., 2006). For this dimension, a review of the 28 interview transcripts in their entirety surfaced three important themes around:

- Locus of responsibility
- Prevention program start-up
- Defining program success

These findings are presented in the following three subsections.

Locus of responsibility. Of the 28 decision makers interviewed, none expressed the belief that youth violence prevention in their community was the responsibility of their organization (see sample quotes, Table 12). Interviewees were passionate and thoughtful about the tenacious problem of youth violence:

Violence isn't the issue, what causes the violence is the issue. So if we continue to focus on violence as the thing, we're missing the entire problem (IA). Violence is the symptom of the problem, diabetes is the symptom of the problem, poverty really is a symptom of

the problem. The problem is underlying economic distribution [of] resources, I mean that's what the problem is. And it manifests itself in violence, and people care about that because they see a dead kid. (#17)

It's [youth violence] very bad ... the children I hear weekly, oh we found, somebody found a dead person in our neighborhood, oh we heard gunshots, little kids. We heard gunshots; we had to dive to the floor. And this is driving them from school in the van when they're talking amongst themselves. They're not trying to get sympathy from me, this is just general conversation among 8-year-olds that we had to dive to the floor because we heard gunshots. So that's very frequent you know ... the easiest place to start for me is in the schools where you take the kids that start behind in the first place, take them, give them the best, the smallest classrooms, the best teachers, the most resources, the most nurturing. (#11)

... there's a lot of people who are doing a lot of different things that we talked about, but is there a national agenda to reduce violence in America? I don't think so. (#1)

Interviewees in all study cities recognized the complexities of youth violence causes and prevention, offered different perspectives on where the responsibility for that leadership resides within their community, and offered different ideas for addressing this complex issue.

Prevention program start-up. One of the questions posed in the interviews asked how prevention programs get started. The interviewers in the original study posed this question to 24 of the respondents in the subset of 28 comprising this study's final sample. Of the 24, about two-thirds (15) were able to respond with some confidence and about one-third (9) indicated that they did not know or did not answer with certainty. Of those who spoke with confidence, 11 drew upon on their agency experience and four shared observations based on their local community.

A common theme in the responses of the decision makers, including those who expressed a lack of confidence in their own knowledge, was that prevention program start-ups depend upon external funding. In fact, 15 of the 24 key informants responding to the interview question referred specifically to grant funding. Skepticism about the availability of funding for prevention start-ups was expressed by seven individuals across the three study cities. The sole individual

Table 12

Mental Models: Responsibility for Youth Violence Prevention – Sample Quotes

Responsibility for Youth Violence Prevention Planning	Interview
Nobody likes it, nobody wants it.... It's falling on the shoulders of the police department.	#1
I mean if we are addressing youth violence it's usually kind of like a by-product of some other program. Like if you're doing character development skills through um a program or if you're doing a peer mediation program.	#2
... just one part of a bigger community health and safety issue, and not our topic ...	#8
Um, they're hiring more police officers. There's more money going to that. They're [mayor's office] prayer breakfast. I mean, I believe in prayer, but we need more than that.	#11
The only way that we address that issue is that we will send programming, we will find donors that um ...will give us money to pay for programming that is sent in to schools that are disadvantaged that may have a problem, a neighborhood that has that type of violence ...	#13
Now that we have a new sheriff, I that he's done a lot to sort of disperse the responsibility for that ...The mayor ... sort of charged this blue ribbon committee ... Jacksonville Journey ... we've done enough studying and now we need to take some action.	#17
And that, I may help dropout prevention, I may help with guns in school, I may deal with bullying, I may deal with uh gang activity. So I do a whole hosh posh of things.	#24
No, there's not one head organization. If I had to name one, I think ... Partners for Out of School Time, POST.	#30
Um, when I think about it, it seems like everybody's doing a little this and a little that, there is no real big, major initiatives. There aren't.	#38

who indicated that funding for prevention programs was readily available through grant funding was an executive with a for-profit organization not eligible to compete for such funding. Two individuals in two of the cities explained that the funding of prevention programs is typically triggered by crime-related external events that become visible to the community-at-large (see #37, in Table 13, for example).

Defining program success. A third theme that emerged in the mental models dimension was how the decision makers define success in their current work. This review focused on reports or indications of the use of measurements of change in behavior, knowledge, or attitudes of the population served. Of the 28 decision makers interviewed, five talked about success as defined through outcome measures: three in community level incidence rates, two in recidivism, and one in academic success. The three individuals in the field of public health in the three study cities talked about tracking disease and injury incidence rates; they did not talk about measuring the outcomes of specific programs or interventions. One official explained, when asked about measuring success, that community relationships are the key to making an impact:

I have a whole epidemiology division that tracks progress, but we are the first to say that while we are very much aware of what the healthcare issues are, we don't have all the solutions, and so our biggest mission really is developing the relationships with all the other community partners that together, we can make an impact. (#8)

A second public health official in another city addressed rates and the need for community connections:

Um well that depend whether you're a process or outcome oriented person. I think that the process measures are doing well. We talk to a lot of people, we talk to 135,000 people per year in the health department ... In terms of outcome, murder rates going up not bad, infant mortality rates going up not bad, diabetes rates going up not bad. So you know are we having any impact ultimately, no. The definition of insanity is doing the same thing over and over and expecting a different outcome, and that's what public health does. (#17)

The third expressed concern about the magnitude of another community health indicator:

Boy that's a good question. The data I showed you that I referenced that shows the rise in out-of-wedlock births in the last 40 years, I guess it took us 40 years to get here. Is it going to take us 40 years to turn this thing around? Probably. (#32)

Table 13

Mental Models: Prevention Program Start-Up – Sample Quotes

Prevention Program Start-Up Knowledge	Interview
Oh, I think prevention programs get funded last, um.... But as far as how it's funded, um, I don't know.	#2
Well, I think it's a combination. We're always looking for grant opportunities, uh, as I said, the state certainly provides some of it just by mandating certain activities.	#8
There's a lot of grants. There's a lot of grant money for prevention programs out there.... We are a privately owned for profit company, we don't qualify for any grant money, so we aren't competing for grant money.	#10
... now we this is what we call a coalition, where the county, the city, the state and the federal and the local, we're all now beginning to come together, and say look he's a part of 5 million dollars, we can go after this money and you can get this, and we can get that, and we can get that. So we just collaborate on, there's only 45 thousand dollars, but school system, parks and recreation, and the police department, we combine together on it to work on truancy.	#24
... we don't even start new initiatives or anything until number 1, we've done the research on best practices with it, until we can see that there's other data that shows us that something might've worked ...	#28
Usually what I've seen, the way an organization gets started is, somebody takes the lead, um a person or a couple of people step up and say we want to do this, um they go out and raise money from the community, donate the money.	#30
I'm not aware of that, no. I was thinking via fundraising and uh, a creative budget.	#34
A lot of it takes money. A lot of people want to start a prevention program, but it will fizzle out and won't last long because grant funds only last so long. Um, expiration ... so unfortunately in these days and times its taking something to happen for something to get started.	#36
... how it gets started is the crime level goes too high and the people have the nerve to say enough is enough, then they group, they organize, and they express themselves to the local elected body ...	#37

Representatives of juvenile justice organizations in two cities specifically referred to recidivism as a measure of program success. The director of one of these two organizations described a sophisticated system, more sophisticated than any other described in the sample. (Health directors referred to epidemiology divisions and/or systems, but these systems were not discussed in the interviews.) The juvenile justice agency tracks and reports, among other things, re-arrests, re-convictions, and re-sentence activity for juvenile offenders who were in the state system. The other juvenile justice agency director tracked recidivism on the offense for which the agency provided treatment. A third juvenile justice individual who headed a GED program for incarcerated youth indicated using GED passing rates as the measure of success. (Three other interviewees used academic success as a measure, but academics were not the core of their programming.)

More commonly, success was described in terms of program retention, reach, or influence (see sample quotes in Table 14). For example, a social service agency program manager recalled successes in program expansion as additional schools and additional students served:

Um, in the time that I've been here, uh we've grown. When I started here we were in uh 14 schools, um we're now in 24 uh we've gone in the level of service the first year I was here we served uh 562 students, this past year we served 1312. Um, and uh and we've introduced a number of new schools this past school year, all of which were secondary schools. (#2)

Two individuals in particular shared strong beliefs on the value of measuring success through personal relationships with individual youth. One program coordinator within a juvenile justice agency illustrated a perceived relationship success drawn from a dramatic encounter in a barbershop:

Table 14

Mental Models: Defining Program Success – Sample Quotes

Defining Program Success	Interview
Well success for us is based on consistency. As long as we have the program and we look at the attendance and the youth that we are targeting keep coming then it's successful. But the numbers don't provide the anecdotes.	#5
I think it's very successful. Uh ... uh ... like I said, I'm very excited about that we've pretty much doubled, we've more than doubled our participants from last year and we just want to keep rolling.	#6
When I say success, I'm talking about the initiative process itself. Um, this is a fairly new center [in the community], so I'm definitely not involved in the implementation or any part of the measuring of the success. But I think when anyone in the community can recognize that something like this is well needed for our youth, that in itself, just the initiative.	#9
We don't have any kids that have committed another sex crime after they've left, or successfully completed our program. You know we've had some that have committed other crimes.	#10
Well actually talking with the kids itself and tell us how can we better and how can we you know, how can we better services, how, what can we do to make them feel safer, what can they do as an outlet if they feel that they are about ready to commit a crime, give them other alternatives, you know, being able to give them resources or other numbers to other agency that can help them ...	#12
I don't know how effective we are but we spend a lot of time going into the public school system talking about injuries that can be sustained as a result of violence.	#27
I think we've seen a lot of progress with system of care. I think there're you know people, um, I think any change is sometimes difficult for the community and for staff and um, we've had some push back about using the system of care as our model too.	#28
Oh we, we have touched so many people and that has been a really big challenge for us is to try and capture them. Of course our kids are aging out anywhere from the 14 year old to the 16-17 year old, well then they're going off into the world. A lot of them are going to college; they're going to other jobs and moving all over the country.	#30
Um, if I can measure it by the boys being engaged and keeping in touch and some of the success stories that I hear, then we're doing alright.	#34

It's unconventional but I was in a barbershop, and I was sitting in the barbershop and the door of the barbershop flew open and the guy that was cutting my hair, he just like turned the chair around and it was two individuals that came through the door they had on coats and it was hot, and when he swang the chair around, the boys kind of backed up a little bit, and they was about ready to rob him. And the guys they see me and they say Mr. [interviewee last name], and they backed up out ... Based on, based on those kids at that time, have a certain respect and you've been working with them regardless of whatever they doing, even the worst sometimes listen, it might escape, it might escape real quick out, but sometime sometimes sticks in their head, and they did not commit that crime that day, but they went later on and committed another crime and one of the individuals was shot and killed. But that particular day for that citizen, that guy that was in there, I mean he couldn't stop thinking because you know, and if it wasn't me, or if I didn't have a good rapport with the kids or treat them the way that I want to be treated that I could have been a casualty because they had weapons, they had guns... (#12)

An executive director of a social service agency was forthright in the significance of personal relationships:

Programs don't save kids. People do. Relationships are what save kids, not programs. So if I have a program ... if I start something here that just brings the kids in, sets them down and says, ok you need to stay away from guns and you need to not fight, and you ... I mean, forget it.

But so, I think what you have to have to prevent violence, well first if you start very little where their needs are met. If their emotional needs are met and you know, if they're not being met at home, then they still need to be met somewhere so if we can't go into the home and help the parents to the degree that they're then able to help the children, then we better help the children or we're going to pay for it when you know, in the prisons. And then mental health, well we don't have mental health here. But anyway, so we have to start with relationships with kids I think. And safe places where they can come have a good time and the kids that come here like it here. (#11)

In contrast, however, a public health agency director believed that "one-on-one program interventions are largely unsuccessful" because the approach never rises to the level of system change. System level change, according to this interviewee, is constrained by a lack of political will to change the distribution of resources and break down silos of program activity.

With the exception of the three public health directors and two juvenile justice agency participants, the interviewees did not share evidence of systematic collection of data to support

program outcomes. This does not mean that other agencies did not have systems in place. However, among the other interviewees, and in the context of “success,” there was a strong tendency to talk in terms of retaining youth in programs, expanding the reach of programs to additional youth, and developing relationships with youth on an individual level. This suggests that the knowledge providers using evidence-based outcome-measure language are talking a different language than a portion of their potential or targeted knowledge receiving audiences.

Firm knowledge strategies. The interviews elicited decision makers’ thoughts about future plans. Of the 18 interviewees who talked about future program plans, six spoke in terms of maintenance or contraction of programs, 10 spoke in terms of expansion, and two individuals were uncertain about plans. The two individuals who expressed uncertainty explained that plans to address perceived service gaps were under consideration by the Board of Directors (#33) and local government (#37).

Program maintenance or contraction. Of the six individuals who talked in terms of maintenance or contraction of program offerings (see Table 15 for sample quotes), three specifically made reference to funding uncertainties (#13, #18, #29).

Program expansion. There was no discernable pattern in terms of the type of expansion anticipated among the 10 individuals who talked in terms of growth (see Table 16 for sample quotes). Expansion ideas included adding staff, adding facilities, increasing participation levels, and adding new programs or program content. The individuals who spoke with most certainty couched their responses in terms of recent, concrete planning activities (#5, #23, #24). Only one individual (#12) specifically mentioned that prevention programming was under consideration;

Table 15

Firm Strategies: Maintenance or Contraction of Programs – Sample Quotes

Maintenance or Contraction of Programs	Interview
For [City] specifically, I don't know that I could answer that question. Nothing for the state in particular. Again, we just have statewide programs available to be used by our folks at the local level.	#7
It'll be ongoing.... Yes, it's absolutely, I mean, this is a need that's ongoing. So, I don't think it'll ... unfortunately children are being abused every day. And because of that we're having to make referrals every day.	#9
Um ... to maintain what we're doing, which is beginning to be a struggle with less and less funding.	#13
Well you know our future plans are to continue to focus on equity as an issue and talking about natural causes and root causes of issues. We have to stay committed to that as an organization.... To sort of facilitate the community conversation about what are we going to do about these priority health things. ... Um but you know in terms of what happens there is ... our role is facilitate the community to decide that. And however they decide to do it, they decide.	#17
[Program Name] as far as we know is going to be in existence for a long time, but we, our grant is up for renewal in June of 09, and then in that way we will know, whether we are going to continue, but I'm almost sure it will be ...	#18
In the budget process, and the budget's going to be passed in a couple of weeks, we lost funding for a lot of our community contracts for parent education. [Another local agency] has a grant through [corporation] to look at the mental health services.... They've [other agency] taken over our contracts and they're going to fund them for a year so we can wait and see if we can get some funding next year.	#29

the unit's umbrella juvenile justice organization planned to increase funding to prevention programs.

Table 17 summarizes, by dimension, the key findings from the analysis of the interviews with the 28 decision makers. These key findings are interpreted in the next section.

Table 16

Firm Strategies: Initiation of New or Expansion of Existing Programs – Sample Quotes

Initiation of New or Expansion of Existing Programs	Interview
Many of our low level drug dealers are the best entrepreneurs, entrepreneurs that you can find anywhere. They know how to run a business, they know about supply and demand, so we are trying to redirect those skills to a positive, in a positive direction. So what we've done is we've started several teen entrepreneur programs ... So those are some of the initiatives that we're starting, another program is this summer we will have our first teen camp ...	#5
They've given a second person in this unit and from what I hear they actually want to bring a third person over and move over to Southside and get us a base in Southside because right now we have [two geographical areas] and we want to get Southside also, and I think eventually we want to get Northside, so as far as I know we want to keep rolling, and keep growing, the more of us we can get doing this, the more people we can bring, last year we had about 300 people doing the sports programs, this year we went to almost 700.	#6
Then there's also a—we're expanding our youthful offender area. It's going on, construction's going on behind the building for that [vocational building] ... They'll—what they're looking to doing that aspect as is move under—and increase the—the amount of staff and decrease the ratio of officer to youthful offender and their program there will be re-worked and a lot more one on one.	#23
What we're working on now we're trying to get it implemented for the beginning of the school year so that we can be ahead of the curve and say that we're going to kick off this at the first of the year, we're going to kick off violence and guns and gangs and drop out, we're going to put a new initiative out there so. And then we'll hit that and then I guarantee about six months down the road there's going to be something else new popping up.	#24
You know, we have a great partnership, like I mentioned before with the city, with the parks and recreation departments.... So our hopes are to get into another park just like this and provide the same programs on another side of town.... That's our hope, to get better and bigger and to provide the same quality programs.	#36

Table 17

Absorptive Capacity Dimension, Loci, and Key Findings

Dimension	Locus	Key Findings
Environmental conditions	E	<p>Drive <i>incentives</i> for developing absorptive capacity for external knowledge</p> <ul style="list-style-type: none"> • There was no over-arching, community-wide strategy for youth violence prevention in any of the three localities. • There was no single organization or coalition recognized as having responsibility for youth violence prevention in any of the three localities. • A substantial majority of the decision makers in all three localities expressed concern about the instability of funding for programs, both core to their mission and in youth violence.
Learning relationships	E	<p>Drive the <i>ease</i> of understanding external knowledge</p> <ul style="list-style-type: none"> • A small minority of the decision makers had relationships with outside knowledge providers holding youth violence prevention expertise.
Knowledge characteristics	I	<p>Drive the <i>depth and breadth</i> of understanding external knowledge</p> <ul style="list-style-type: none"> • A small minority of the decision makers had specialized knowledge in youth violence prevention.
Mental models	I	<p>Drive the <i>creativity</i> of recognition, assimilation, and application of external knowledge</p> <ul style="list-style-type: none"> • Youth violence prevention was perceived to be a worthy issue area but not an issue for which the organizations were responsible in the community. • A substantial majority of the decision makers perceived that the way prevention programs get started is through external funding. • A majority of decision makers spoke of program success in terms of program retention, reach, or influence.
Firm strategies	I	<p>Drive the <i>focus</i> of recognition and understanding, assimilation and application of external knowledge</p> <ul style="list-style-type: none"> • A minority of the decision makers used scientific literature during decision process for selecting or designing their programs. • A small minority of the decision makers had concrete, near-term plans to introduce new program content related directly to youth violence prevention.

Interpretations

Semi-structured interviews with 28 decision makers in public and nonprofit youth serving organizations were analyzed to understand why innovative, evidence-based programs and practices for the prevention of violence by youth are or are not adopted at the local level. The decision makers represented organizations that provide services to youth, although none of the decision makers represented organizations that design their organization's programming exclusively or predominately around youth violence prevention. In this section, the findings are considered within the context of the learning process model of absorptive capacity. The focus is on the collective, not the particulars of specific cases.

Environmental conditions. Research in the business sector demonstrated that environmental conditions drive incentives for developing absorptive capacity and that a key driver in this sector is competition within an industry. Industry competition has a direct influence on the daily operations of a firm. In the business sector, economic conditions and financial resources generally have an indirect influence on the daily operations of the organization (Daft, 2007, pp. 138-140). In the not-for-profit organizations studied, fiscal uncertainties were a key concern of the decision makers. These uncertainties were tied to the local, state, and national economies and manifested in reduced funding, both experienced and anticipated.

In an organizational knowledge context, unstable financial resources constrain a decision maker's ability to invest in an absorptive capacity for new knowledge. Under favorable economic circumstances, these investments are made through existing personnel, new hires, consultants, or system expansions. Another limitation when resources are uncertain is the ability to devote or redirect staff effort to knowledge searching, especially toward unfamiliar knowledge

territory or knowledge that is not related directly to an organization's core services. The focus in fiscally uncertain times is more likely to be on the exploitation of existing knowledge—not exploratory learning—to ensure reliable, predictable, near-term, and, in public and publicly funded organizations, some legislated service outputs.

For decision makers in not-for-profit organizations that are dependent upon external resources, there is a potential danger in that environmental scanning for new opportunities becomes focused on scanning for funding. In this scenario, the search for new external knowledge follows the identification of a funding source and, conceivably, the funding itself. Hence, the areas defined as priorities by the outside funder can drive the organization's knowledge acquisition strategy. This is in contrast to an ideal capacity investment scenario in which the organization scans its environment to determine opportunities for advancing its service mission and then focuses its knowledge search and acquisition in support of these opportunities.

For the decision makers in this study, the unstable fiscal situation was compounded by two other environmental factors: the lack of an over-arching federal, state, or local strategy, and the lack of recognized leadership, in youth violence prevention, in their operating environments. The lack of a guiding strategy or recognized leadership suggests there is neither an existing infrastructure nor funding stream to support the investment in an absorptive capacity for this new external knowledge area. Since not-for-profits are dependent upon external sources of funding for their daily operations, the lack of guiding strategy and leadership is likely to further weaken the decision maker's aspirations of, or motivations to consider, expanding into this new area. Potential consequences of low aspirations are the failure to scan, pick up, and interpret signals in the environment when opportunities do arise (Van den Bosch, et al., 1999) or to recognize the potential value of new knowledge (Todorova & Durisin, 2003).

Learning relationships. In Lane et al.'s (2006) process model of absorptive capacity, the characteristics of learning relationships between an organization and an outside partner drive the ease of understanding new external knowledge. Learning relationships can ease new knowledge transfer when the receiving organization and the providing organization have complementary knowledge bases (Lane & Lubatkin, 1998; Chen, 2004). Learning relationships also demonstrate a connectedness or openness to knowledge sharing (Cockburn & Henderson, 1998; Fosfuri & Tribo, 2008; Knudsen, et al., 2001; Lim, 2004; Vinding, 2000). Established learning relationships facilitate access to knowledge and a quicker development of capabilities for knowledge recipients. In this study, four interviewees in two cities mentioned knowing individuals at nearby CDC-funded academic centers of excellence in youth violence, although it was difficult to discern the nature of a teacher-student learning relationship from these brief mentions. Most of the decision makers, though, did not mention contact with experts—people with deep and contemporary knowledge—in youth violence prevention. For the human service organizations that want to expand into a new area or capitalize upon an existing, related area, the lack of established learning relationships can delay the preliminary steps of acquisition and assimilation of the new needed knowledge in the form of programs, principles, or practices.

Knowledge characteristics. Internal and external characteristics of knowledge influence the depth and breadth of understanding brought to a knowledge domain and therefore, influence the ability to recognize and understand the value of new knowledge (Lane, et al., 2006). The education, specialized training, and skill sets held by members form the core of an organization's knowledge stock. It is not surprising that public and nonprofit organizations for which youth violence prevention is not the core mission do not have staff with this subject matter expertise, even though they hold related knowledge. All of the decision makers in this particular study

were affiliated with organizations that served youth, and all were in fields that exposed them to youth violence issues through the delivery of their services.

Mental models. The values and beliefs held by decision makers will influence what is seen and absorbed (Davenport & Prusak, 2000, p. 12). Decision makers' perceptions of the locus of responsibility for prevention in youth violence are important both from the perspective of the outside knowledge provider who has knowledge to offer and from the perspective of the knowledge seeker for focusing the knowledge search. Ownership of an issue or problem is an incentive for innovative activity (Van Wart, 2005, p. 40). While the prevention of youth violence was not perceived by the decision makers to be the responsibility of their organization, most of the decision makers in the sample appeared to be committed to the issue. These decision makers found ways of supplementing their services/programs with efforts that they believed supported youth violence prevention. In this circumstance, where the locus of responsibility is not perceived to be within the organization but where key decision makers still place a high value on addressing the issue, the decision makers themselves (or someone on their staff) might function as a boundary scanner, monitoring the knowledge environment (e.g., research or practice innovations and trends) for pertinent information.

In describing how they thought prevention programs get started, a substantial majority of the decision makers talked—sometimes exclusively—in terms of funding. While narrow, this response makes sense because for most of the organizations prevention was not the core mission. It reasonably suggests that for services outside of the core mission, extra funding would be needed. Hence, outside funding is likely to be required if the organization wants to develop capacity in this area. This has potential implications for the type of knowledge needed. If youth violence prevention programs cannot get started without new sources of funding, then the how-to

of securing funding is a specialized knowledge. If the organization does not possess the specialized knowledge of where to look for the potential funding opportunity, how to evaluate it, or how to make a successful application, then the organization can miss opportunities or be hampered in the pursuit of youth violence prevention programming.

Within and between organizations, a shared language facilitates the exchange of knowledge. How organizational decision makers think about program success is important to the outside knowledge provider. It provides information about how the “know-why” aspect of the proposed innovations’ causal linkages and outcomes will be assessed at the receiving organization. For example, do the decision makers think in terms of population-level changes, relationships with individual participants, program reach in numbers or locations served? In this study, all of these surfaced in decision makers’ talk about how they know whether their programs are a success. This is important because the language of evidence-based prevention science for youth violence defines success through measurable outcomes, often at the program or community level and over time. How people think about measuring success can influence how open or receptive they will be to the proposed new knowledge. Furthermore, if the definition of success is tied to funding, then there are potential implications for internal capacities to support not only knowledge-related activities but changes to the data system(s) for accountability.

Strategies. The strategies of decision makers focus the knowledge searching activity(ies) of the organizational unit. Search activities draw upon organizational resources to support the exploration of new knowledge areas or the exploitation of existing areas of competency. Decision makers were asked about the decision process for existing programs. How program selections were made in the past provides an indication of how new programs might be selected. A minority of the decision makers mentioned the use of scientific studies or best practices. The

decision makers were asked about their plans for their programs. Decision makers' plans convey a sense of whether organizations are moving toward expansion, maintenance, or contraction, and whether any new programming areas are under consideration. The latter was an important consideration in this study because the interviewees did not perceive the prevention of youth violence to be an existing core programming area. Expansion would provide an opportunity for organizations to focus knowledge search strategies in the specialized subject area of youth violence prevention. Only one decision maker indicated prevention programming might be expanded and it was not clear whether this was specific to prevention in the context of recidivism (preventing re-offending) or in violence prevention. Another individual listed violence-related program content (e.g., on bullying, guns, gangs) that was to be delivered to students, but this person also indicated that the topics could change in six months. In the tight fiscal environment faced by the decision makers in this study, about one-third aimed to maintain or contract their services. In maintenance and contraction mode, strategies are much more likely to be aimed at reducing expenditures and gaining efficiencies in core programming areas rather than expanding into new service areas or deepening efforts in discretionary or supplemental areas (Cyert, 1975; Van Wart, 2005). Searching for external knowledge in the specialized area of violence prevention for youth would not be a strategic choice for these decision makers unless the mission, funding, and expansion plans were aligned accordingly.

The relationships between the dimensions of influence proposed in the original absorptive capacity model were considered for public and nonprofit organizations. The findings and interpretations of this study suggest that the environmental conditions of economics, issue strategy, and issue leadership appear to do more than drive the incentives for investments in absorptive capacity; the environmental conditions drive the wherewithal for investments in

absorptive capacity by public and nonprofit organizations. The environmental conditions have a direct influence on the aspirations of the decision makers, which in turn affect their strategic decisions for investments. Figure 5 displays a proposed model of public and nonprofit organizations absorptive capacity, based upon the analysis of this data and in the context of the

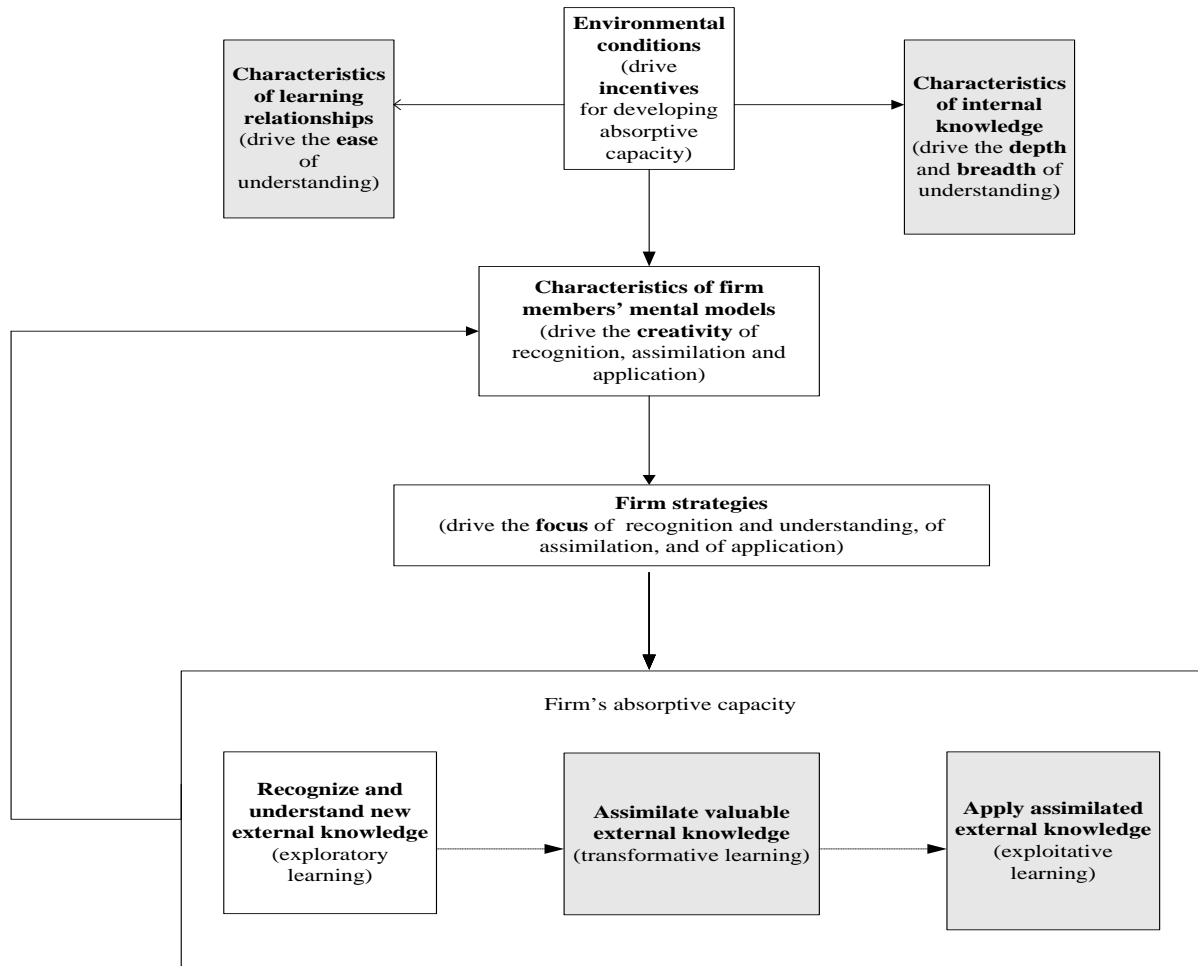


Figure 5. Proposed relationships between environmental conditions, mental models, and strategies in public and nonprofit organizations for developing absorptive capacity.

related literatures. In this model, the firm strategies to invest in capacity are mediated by the decision makers' mental models (aspirations and expectations), which are directly influenced by the environmental conditions (economic stability, strategic initiatives, leadership). As absorptive capacity develops, it influences the mental models (raising aspirations and expectations).

Limitations of the Study

There are certain limitations to this study that stem from the use of a secondary data set and from the nature of qualitative studies.

One limitation is that the proposed research drew exclusively upon the interview data collected for the barriers and supports project conducted by the VCU Clark-Hill Institute. The purposes of the original study and the current study were similar, although not identical. Therefore, the transcripts of the interviews constitute a secondary data set. The author of this current study was part of the research team, but was not involved in the development of original interview questions or in the actual interviews of the decision makers. Research team membership occurred after the majority of the interviews were conducted. Therefore, potential lines of inquiry of relevance to this study could not be pursued with the interviewees. A related limitation is that the researchers in the original study were known to be affiliated with an academic center of excellence in youth violence prevention. This knowledge could influence the participants to provide responses more favorable to the idea of engagement in youth violence prevention programming. The reliance on transcripts without the auditory and visual cues that are available during in-person interviews can also be a limitation. It is possible that facial expressions or tonal emphases might convey additional useful information that cannot be picked up through a transcript. The transcribers did denote audible and inaudible expressions (e.g.,

laughter, eye rolling) to assist the researcher(s) not present in the original interview. It is not possible to know what expressions were missing from the transcripts.

Another limitation is the subjective nature of qualitative research and possible researcher bias. The a priori conceptual framework used to guide the coding and analysis was selected after a critical review of the relevant literatures—strategic management, health services delivery, and prevention science. The learning process model of absorptive capacity was selected because it was the only model grounded in the literature that directly considered organizational capabilities to acquire, assimilate, and apply new external knowledge. This conceptual model provided an organizing framework for the initial coding of chunks of interview data from the transcripts. It was the voices of the key informants that shaped the coding and analysis within the dimensions and led to discoveries of potential relationships between the dimensions.

A fourth limitation is the study's sample size. The original study used a purposeful stratified sample, and the number of interviewees across the three localities was limited to 40 for the practical reasons of time and expense; theoretical saturation, as mentioned in Chapter 3, might not be attained. Theoretical saturation is the point at which additional data collection and analysis might add some additional variations but yield little more for the overall conceptualizations. The sample in the original study was largely determined before the interviews were conducted; theoretical sampling was not a requirement of the original study design and additional interviewing was not conducted as part of the coding and analysis process. In the current study, because the interviews constituted a secondary data set, it is not possible to know with certainty whether new themes would have emerged or whether existing themes would have taken a different shape if theoretical saturation were an intentional part of the original design. The number of interviewees used for this current study reduced from 40 to 28 after

screening for suitability of purpose. A fifth potential limitation is that only one person was interviewed in each organization. The individuals selected for the interviews were decision makers in the organizations that they represented. Decision makers are key organizational members for interfacing with the organization's external environment, establishing organizational priorities, setting organizational strategies, and allocating human and financial resources. The goal of this study was conceptual transferability, not statistical generalizability. Nonetheless, it is possible that interviews with additional individuals in each organization could add to the understandings gleaned through the eyes of the key informants who participated in the original study.

It is the hope that findings from this study can extrapolate in a meaningful way for application in other nonprofit and public health and human service contexts in which the issue knowledge area (e.g., youth violence prevention) is not the core issue around which organizations' program and services are designed. It is very possible that the findings could be different if the issue area studied were in a core area of function and mission. If so, the decision makers' sense of their organization's responsibility, to the issue, most likely would be stronger and starting new programs could seem less daunting. It is also possible that the data and findings could be different in different cities especially because the local context (e.g., environmental conditions including financial conditions, issue foci, and community leadership) could vary from the cities represented in this study.

The next and final chapter presents conclusions and recommendations.

Chapter 5: Conclusions and Recommendations

The problem that prompted this research study is that many youth-serving agencies at the local level do not adopt innovative, evidence-based programs and practices for the prevention of violence by youth. Organizations that deliver violence prevention services for youth are not acquiring and applying the new knowledge generated by prevention science researchers (Wandersman, et al., 2008). Researchers have attempted to translate and disseminate this new knowledge, and funders have attempted to encourage the adoption of evidence-based programs and practices.

The purpose of this research was to explore a sample of community-based decision makers' perceptions of why innovative, evidence-based programs and practices for the prevention of violence by youth are, or are not, adopted at the local level. Two research questions focused the study: How do decision makers describe the decision process to adopt or not adopt new programs for youth? What factors do decision makers perceive to be impediments or facilitators to the adoption of new programs for youth? For this study, the learning process model of absorptive capacity was used as the a priori conceptual framework. This model considers internal and external influences on an organization's ability to value, acquire, assimilate, and apply new knowledge generated outside of its organizational boundary.

This research study utilized a secondary data set of 28 semi-structured interviews that were conducted by the VCU Clark-Hill Institute for Youth Violence Prevention. The decision

makers who were interviewed were from nine fields in three urban U.S. southeastern cities. The fields represented by these 28 individuals were arts and culture, education, health care, juvenile justice, law enforcement, mental health, public health, recreation, and social services. Eighteen of the organizations were either local or state government institutions, one was a private for-profit service provider, two were public/private providers, and seven were nonprofits.

In the following subsections, the conclusions drawn from the findings are presented. The findings and related conclusions are organized by capacity dimension. This is followed by a discussion of the findings, recommendations for research and practice, and a suggestion for future research.

Conclusions

The first set of key findings related to the environmental conditions that influence the incentives for the development of an absorptive capacity for new knowledge. The three findings were:

- There was no over-arching, community-wide strategy for youth violence prevention in any of the three localities.
- There was no single organization or coalition recognized as having leadership in shaping strategy for youth violence prevention in any of the three localities.
- A substantial majority of the decision makers in all three localities expressed concern about the instability of funding for programs, both core to their mission and in youth violence.

A conclusion that can be drawn from this set of findings is that the policy makers in the organizations' operating environments did not make the issue of youth violence a priority area.

A related conclusion is that local leadership did not coalesce around youth violence as a priority issue. This combination of factors—a lack of an over-arching community-wide strategy, lack of

strategic leadership, and the uncertainty of the fiscal environment—is a strong disincentive for investing in a capacity outside of core services.

The second set of key findings relate to the characteristics of the knowledge held by the decision makers and, relatedly, the learning relationships that the decision makers had with outside experts in the subject of youth violence prevention.

- A small minority of the decision makers had specialized knowledge in youth violence prevention.
- A small minority of the decision makers had relationships with outside knowledge providers holding youth violence prevention expertise.

Only two of the decision makers in one city mentioned having specialized knowledge in youth violence prevention, and only four—two each in two of the three study cities—mentioned relationships with outside experts in youth violence prevention. A conclusion that can be drawn from these findings is that at the community level and the organizational level, the development of an absorptive capacity for this knowledge will require more resources because a) the initial stock of specialized knowledge is low, and b) the learning relationships are not yet developed. The hurdle of developing an internal knowledge stock for the specialized subject matter of youth violence prevention will be higher due to the lack of learning relationships with experts who can facilitate access to knowledge and expedite the assimilation of the knowledge.

The third set of key findings related to the mental models held by the decision makers.

These key findings were:

- Youth violence prevention was perceived to be a worthy issue area but not an issue for which the organizations were responsible in the community.
- A substantial majority of the decision makers perceived that the way prevention programs start-up is through external funding.

The belief among the decision makers was that youth violence prevention was a worthy issue, even though it was outside the core services delivered by their respective organizations. A conclusion that can be drawn from this is that key individuals in the organizations are receptive to, and possibly engaged in, the acquisition of new knowledge in this specialized area. Having their buy-in on the importance of the issue is significant because decision makers play a critical role in setting the tone and direction for their organizational unit. If they are active at the community level, then they might exert influence there as well. It was also the perception of a substantial majority of the decision makers that prevention program start-up requires external funding. All of the organizations, with the possible exception of one private enterprise, relied upon mixes of external revenue sources to deliver their services and, as noted above, the fiscal environment was unstable for a substantial majority of the programs. A conclusion that can be drawn from this is that organizations would need assurance of a steady funding stream in order to consider an investment in youth violence prevention. A related conclusion is that since youth violence prevention is worthy or valued, but not a core service or deep knowledge area, the ability to uncover and qualify for funding opportunities will be more difficult.

A fourth key finding related, also related to mental models, was how the decision makers define success for their programs.

- A majority of decision makers spoke of program success in terms of program retention, reach, or influence.

A majority of the decision makers thought of program success in terms of retention, reach, or relationships rather than outcomes. Funding streams for implementation are typically tied to program outcomes as measures of success, and evidence of outcome achievement is expected for continued funding. New practices and programs in prevention science are justified by and

marketed on their outcomes. How success is defined addresses the “know-why” of an innovation: if you adopt and implement this innovation, then this population change will occur. Population-level impacts are distant, not near-term, and come with risks associated with staff and infrastructure investments in a new program that might not demonstrate success in the form of the expected measureable outcomes. Some program managers and directors in this study thought of their programs’ successes as the ability to reach underserved geographical locations and/or develop supportive one-on-one relationships with individual youth. A conclusion that can be drawn from this is that the culture of practice has a value system that differs from the culture of science. A related conclusion is that the cause-and-effect language for population-level impacts, used by prevention scientists in describing innovations’ expected outcomes, will not resonate with a portion of the intended audience.

The final key findings were in the area of the strategies that the decision makers might be expected to deploy.

- A minority of the decision makers mentioned studies or best practices from professional literature.
- A small minority of the decision makers had concrete, near-term plans to introduce new program content related directly to youth violence prevention.

One conclusion that can be drawn from this is that in making decisions about their existing programs, decision makers are less likely to be exposed to advances in evidence-based programs or practices through traditional scientific outlets. A second conclusion that can be drawn from this is that organizations, even those with decision makers who value violence prevention as an issue area, are not able to plan expansion into this related, non-core area in turbulent economic times.

Discussion

The results of the current study strongly suggest that the organizations represented in the sample have a low absorptive capacity for innovations in youth violence prevention. Absorptive capacity consists of three distinct organizational knowledge-related capabilities: the capability to understand and acquire relevant new knowledge, the capability to assimilate the newly acquired knowledge, and the capability to apply the assimilated new knowledge. These capabilities drive organizational performance; organizations with higher levels of these three capabilities will demonstrate higher levels of performance. In Lane et al.'s (2006) proposed model, there are six dimensions of influence on these capabilities: environmental conditions, knowledge characteristics, learning relationships, mental models, structures and processes, and strategies. The current study's findings relate to the learning process model's first capability—to understand and acquire—and the findings contribute to an understanding of the five influences of environmental conditions, internal knowledge characteristics, external learning relationships, mental models, and strategies on this capability for public and nonprofit human service organizations. Collectively, the organizations in this study appear to possess a limited capability to understand and acquire innovations in youth violence prevention. These limitations are discussed in the context of previous research.

An organization's existing stock of knowledge is the fundamental building block for the capability of understanding the value of and acquiring relevant new knowledge from external sources (Cohen & Levinthal, 1990; Lane et al., 2006). Organizational knowledge in specific domains accumulates over time as new knowledge is combined in creative ways with existing knowledge, used to enhance existing or create new services, and examined anew as a result of its

application. The findings in the current study show that a small minority of the decision makers had specialized knowledge in youth violence prevention.

One way for public and nonprofit organizations to speed up the acquisition of new knowledge in youth violence prevention is through learning partnerships with outside experts, such as university faculty. Close, collaborative, learning relationships between partners who possess complementary knowledge and establish an equitable arrangement can be particularly effective for acquiring and absorbing tacit or complex knowledge, such as program innovations in a specialized knowledge area. Only a small minority of the decision makers had relationships with outside knowledge providers holding youth violence prevention expertise. A lack of specialized knowledge in youth violence prevention is a barrier to exposure to new knowledge from external sources that provide current evidence-based research because there is a lack of familiarity with knowledge sources. With neither a strong core knowledge base nor established learning relationships with external experts, organizations have a low potential absorptive capacity. Their knowledge acquisition capabilities—understanding and acquiring relevant new knowledge—are under-developed in the specialized knowledge domain of youth violence prevention.

The organization's environmental conditions are the other fundamental antecedent, in addition to its knowledge characteristics. The operating environment is a key driver of incentives to develop absorptive capacity for new external knowledge. For private sector firms, these incentives include such things as market shifts that affect existing customer bases or new technologies that potentially lead to new product creation or process improvements. The investment in the capability of understanding and acquiring new knowledge is ultimately to improve firm performance, enabling the firm to meet challenges or opportunities presented by

market shifts or technological advances, for example. An investment in acquisition capabilities, through its own R&D, staff build-up, and/or external learning relationships, positions the firm to assimilate and apply new knowledge, increasing its competitive advantage.

In the not-for-profit sector, it is mission achievement rather than inter-firm market competition that determines firm performance. In this current study, the external non-market environment was not a source of incentives for building a knowledge acquisition capability in youth violence prevention. Private sector firms have a resource independence that public and nonprofit organizations do not have. The organizations in this study were dependent upon a mix of external funding to support their operations, and a substantial majority of the decision makers in all three localities expressed concern about the instability of funding for their core programs and any of their program efforts in youth violence. In addition, there was neither an over-arching, community-wide strategy for youth violence prevention nor an organization or coalition recognized as having responsibility for youth violence prevention in any of the three localities. The combination of these three findings strongly suggests a lack of incentives to invest in developing an organizational knowledge acquisition capability in the specialized area of youth violence prevention.

Mental models are cognitive lenses or maps through which individuals view and interpret information and make associations. The mental models of decision makers are particularly important because decision makers direct organizational members' efforts by defining what activities will be pursued and make resource allocations aligned with these priorities. Decision makers' cognitions form an organization's dominant logic (Volberda, Foss, & Lyles, 2009) and influence the development of knowledge-related capabilities by signaling what information is important, what program efforts are priorities, and what activities will be supported and

rewarded. In this particular study, the decision makers valued youth violence prevention as an issue area but did not perceive it to be an issue for which the organization was responsible, and a majority of the decision makers perceived that the way prevention programs get started is through external funding. In the current study's context of operating environments that did not provide incentives through stable funding, community strategies, or leadership in youth violence prevention, decision makers are less likely to be either exposed or receptive to innovations in youth violence prevention. While desirable or valuable, these innovations might be considered out of reach. In addition, an important contributor to being receptive to new knowledge is accepting the logic of why it works. Causal ambiguity is a lack of know-why and the higher the causal ambiguity, the more difficult it is to accept that similar results can be achieved by applying the knowledge in a different context (Szulanski, 2003, p. 523). As noted, evidence-based innovations in youth violence prevention emphasize population-level outcomes or impacts. The majority of decision makers spoke of "knowing" their existing program's success through program retention, reach, or influence. This finding suggests that there is a potential lack of receptivity to the emphasis on outcomes in evidence-based youth violence prevention innovations for efforts that are neither core responsibilities nor readily funded.

Strategies can focus an organization's knowledge-related activities on acquiring new knowledge from the environment, transforming knowledge already assimilated, or exploiting knowledge by applying it. Organizational decision makers rely upon scans of their environment, which are interpreted through their mental models. Decision makers with prior successful experience in searching for external knowledge and fiscally stable environmental conditions are more likely to focus knowledge activities on exploratory knowledge searching, associated with the capability of understanding and acquiring new external knowledge. For the decision makers

in this study, the more likely strategy would be an internal focus on the application of existing knowledge to improve efficiencies and demonstrate effectiveness.

For the organizations represented in this study, youth violence prevention was not a core programming area. Comparing the findings of this study to the literature and previous studies in absorptive capacity, the capability of understanding and acquiring innovations in prevention programming is under-developed in these organizations. Further, the majority of the organizations represented in this study would need significant start-up investments to compensate for the historical lack of investment in this specialized knowledge area. This kind of start-up investment requires changes in the environment that signal opportunities, signals that are picked up, and organizations pursuing (successfully) the opportunities.

If the absorptive capacity of individual organizations within a community is used as an indicator of the community's absorptive capacity, then each of the localities reflects a low capability for understanding and acquiring program innovations in youth violence prevention. Engaging at the community level will be further complicated because the organizations represented in the sample did not have youth violence prevention as a core service. This raises some practical issues for evidence-based scientists who want to establish knowledge-related relationships. Each human service organization will have a different configuration of existing programs, a different home for the youth violence prevention effort, and a different level of knowledge in violence prevention theory and research. This could be true even with organizations within the same larger enterprise (e.g., school system). This is multiplied by the number of organizations that are ostensibly providing some level of effort in youth violence prevention.

The CDC proposed the Interactive Systems Framework (ISF) to guide thinking about how to bridge the gap between research and practice in youth violence prevention and child maltreatment. The ISF has three interrelated systems: the Prevention Delivery System, the Prevention Support System, and the Prevention Synthesis and Translation System (see Table 3). Based upon the findings of the current study, there are two key points that warrant reexamination. These pertain to the sustainability of innovations and the focus of future research efforts.

The first point is the assumption that efforts that promote or encourage the adoption of an innovation are not expected to sustain it.

In other words, when programs, processes, principles, and policies are implemented in new settings, funders expect the setting to demonstrate that programs are implemented with quality, achieve anticipated results, and can be continued without reliance on external consultants or resources. (Flaspohler, et al., 2008, p. 183).

The source of funding for innovation adoption and implementation is not addressed in the research series. The lack of funding for youth violence prevention programs is a barrier for public and nonprofit organizations. Youth violence prevention typically is not a core service area for human services providers. This was true of the organizations represented in the current study and this same point was raised by participants in the CDC research team's expert meetings. A concern about the lack of time or resources for practitioners to acquire new knowledge was also raised in the expert meetings. These concerns were cited in support of the CDC key challenge #5, lack of prevention infrastructure (Saul, Duffy, et al., 2008, p. 201). There is an inherent tension when public and nonprofit human service organizations are expected to build capacity to adopt and implement a new program that is not a core service, such as youth violence prevention, that the promoters, including research scientists and philanthropists, have no

financial obligation to support. This is compounded by the lack of incentives and financial support for prevention scientists to translate and synthesize their research for effective identification and use by practitioners, a lack noted by the CDC team in challenge #1 (Saul, Duffy, et al., 2008, p. 198).

The second point is related to the reference to the “broader context” in the ISF. The three inter-related systems—the Prevention Delivery System, the Prevention Support System, and the Prevention Synthesis and Translation System—operate within a “broader context” of existing research and theories, accountability climate, macro-policy, and funding (Wandersman et al. 2008, p. 197). The research series does not explicate the four contextual factors nor address how the four factors interact with the three interrelated systems because this was outside the scope of their review. From prior research in public policy we understand that policy agendas are set by executive branch administrators and political appointees, with influence from special interests, but government program managers have little time or opportunity to push ideas (Kingdon, 2003). Program directors and managers, such as the decision makers who participated in the current study, are more typically responsible for program implementation and management within the parameters of their units’ legislative authority, budget allocations, and service mandates. Policy change, though, can be a catalyst for addressing wicked problems (Weber & Khademian, 2008), and policy change has the potential to impact at the community level by framing issues, outlining strategies, assigning agency(ies) responsibilities, and establishing funding mechanisms.

Implications

In this section the implications four major findings of the current study are reviewed. These findings have implications for multiple stakeholder groups such as community leaders, policy makers, funders, youth-serving agencies, researchers, and national prevention science

organizations such as the CDC. The study's findings offer useful lessons that relevant to reducing the risk of youth violence and also for the dissemination of knowledge by experts and the absorption of knowledge by practitioners. In this section, four major findings are restated and their implications are discussed in the context of knowledge capabilities that can facilitate the acquisition and use of new knowledge about innovations in evidenced-based youth violence prevention.

The first major finding was that there was no single organization or coalition that took responsibility for youth violence prevention in any of the three study cities. There was neither an over-arching community-wide strategy nor community leadership on this complex issue. Consequently, the efforts to address youth violence in the communities were fractured because different organizations were offering different interventions that practitioners believed were linked to reducing youth violence. These efforts were supplements to core services rather than fully developed efforts integrated into the organizations' programs or services. For example, one educational institution offered sessions for youth on current topics, such as bullying and gangs and the topics were expected to change. An implication of this is that practitioners and youth in these communities might not be exposed to evidence-based programming specifically designed to reduce the risk of youth violence. If elected officials and other community leadership coalesced around youth violence as an issue, then a strategy for a united, coordinated effort across a network of youth-serving public and nonprofit organizations could emerge to address this complex issue. This is particularly important for complex issues such as youth violence that cut across multiple stakeholder groups and subsectors and whose root causes are viewed as systemic. The local strategy can also address the roles and responsibilities of the participants

across the spectrum of stakeholders so that there is clarity for the network of youth-serving agency participants and the community-at-large.

The second major finding was that the availability of funding drove the issue area priorities within the study cities. For example, in one study city, legislation had been enacted that would allocate millions of dollars for gang prevention and intervention activities. Public and nonprofit organizations were anticipating this shift in emphasis and the implications for their future funding. Some agencies, such as parks and recreation, that previously had not been engaged in gang-related issues were directed to begin planning for gang reduction services and notified that their performance would be measured in this area. An important implication of this is that youth-serving agencies that have little or no prior involvement in an issue area will have real start-up costs related to developing their knowledge about the issue. They are unlikely to have existing knowledge in a specialization that is outside of their core services, unlikely to be familiar with the evidence-based practices relevant to the new issue area, and unlikely to have existing relationships with experts from whom they can acquire the needed new knowledge.

Practitioners would benefit greatly from being involved in community conversations and priority setting that is followed by a funding package that supports knowledge acquisition and assimilation activities on an ongoing basis, as a continuing investment. Such funds would enable the practitioners' ability to locate and absorb core knowledge, such as the fundamentals of prevention science, and knowledge of scientific developments in the field for the specific issue area (e.g., gang prevention, youth violence prevention). This type of investment would build the knowledge stock of the youth-serving agency's staff, particularly if the staff work in services or programs that touch violence prevention but are not specifically designed as violence prevention efforts for youth, and ensure that new knowledge opportunities were available as the field

advanced. These investments would ultimately pay-off in the strategic adoption, implementation, and maintenance of evidence-based programs by youth-serving agencies.

A third major finding was that the use of evidence-based research or scientific literature was infrequently mentioned by the decision makers in describing how they selected their programs. An implication of this is that decisions about the adoption of new programs, while perhaps based in part upon local data or needs assessment or legislative mandates, might not be based upon current evidence-based science. Researchers, including prevention scientists such as the CDC, can increase the likelihood of practitioner awareness of innovations and the likelihood of their adoption by engaging community leaders and representatives from public and nonprofit agencies early in the research cycle. This early engagement could begin at problem or issue definition and include the framing of the research questions. This is different from the IOM and IFS, even with the new step that adds research activities to improve dissemination. The IOM and ISF models do not engage practitioners until the innovation is ready for dissemination. This much earlier engagement can elicit how the leaders and agency representatives define the problem. It would assist prevention scientists in developing innovations targeted to specific, mutually defined problems, thereby increasing the likelihood of the discovery, understanding, and adoption of innovations by youth-serving agencies. Further, this engagement could form the basis of a knowledge partnership, or learning relationship, sustained over the duration of a research cycle—conception through intervention implementation and evaluation.

A fourth major finding was that the language of evidence-based science does not resonate with all practitioners. Decision makers in this study were more likely to talk in terms of relationships with youth and improving participation levels or program reach. As part of developing a learning relationship with practitioners, researchers could embrace the practice

culture of youth-serving agencies, in which there can be a high value placed upon the quality of relationships with youth clients and the ability to deliver services to hard-to-reach client populations. This is in juxtaposition to the researcher's tendency to emphasize only the longer-term, population-level outcomes that expectedly follow from the innovation they hope to have adopted. The implication of this gap is that practitioners will be less receptive to new knowledge offered by prevention scientists, especially if it applies to an area that is not core to their service delivery. Practitioners will be more open to the knowledge offered by prevention scientists if practice knowledge and service orientation are valued by the researchers. Further, if researchers engage practitioners earlier in the research cycle the two groups will be more likely to develop mutually acceptable understandings of how a particular innovation potentially fits into the youth-serving agency's array of services and how its adoption will benefit the youth served.

Recommendations

In this section are five actionable recommendations drawn from the findings, analyses, and conclusions of this study. The four major findings were: 1) there was no single organization or coalition that took responsibility for youth violence prevention in any of the three study cities, 2) the availability of funding drove the issue area priorities within the study cities, 3) the use of evidence-based research or scientific literature was infrequently mentioned by the decision makers in describing how they selected their programs, and 4) language of evidence-based science does not resonate with all practitioners. The following recommendations are offered to researchers in prevention science and philanthropies that support youth violence prevention research.

For prevention research scientists. Prevention scientists should continue focusing their efforts at the policy level to create a prevention agenda and to create funding streams for an

infrastructure for prevention practice. Given that community-based organizations are dependent upon external sources of revenue for their knowledge-related capacities and that these capacities will require catch-up investments, stable and continuous financial support is needed. A related recommendation is that prevention scientists work closely with public policy experts who understand the policy dynamics in which the intended innovation-receiving organizations are operating.

During the development phase, prevention scientists should consider the potential real-world, practical fit for innovations among the lines of service offered within provider fields. Since youth violence prevention is a supplemental knowledge domain for many human service provider agencies, program innovations need to be narrowly targeted and strategically disseminated based upon the practical fit within provider fields. Prevention scientists can engage practitioners earlier in the research cycle, when the questions are being framed, to facilitate a mutual understanding of the problem, the “fit” within the existing array of programs and services, and an appreciation of the potential value of the innovation.

Prevention scientists should consider developing two types of specialized knowledge for practitioners: knowledge specific to the innovation, and knowledge specific to securing funding for the innovation. Both types of knowledge will be critical for human service provider organizations in which youth violence prevention is a supplemental knowledge domain, and for which additional resources will need to be secured.

Prevention science units should focus internally on their abilities to develop and sustain learning relationships with practitioners as part of a knowledge package. The prevention researchers can consider whether their specialized knowledge in prevention science is complemented by knowledge in best practices for structuring learning partnerships, and whether

the resources exist to engage both at the depth and over the time span needed to facilitate the receiving organization's assimilation and use of a newly acquired innovation.

Suggestions for future research. The existing study used a secondary data set to explore the absorptive capacity of not-for-profit organizations to value and acquire new knowledge. A suggestion for further research is to conduct an original study with a larger sample size that includes organizations in both stable and unstable environments. In the current study, the interview data suggested that decision makers' mental models were a mediating influence between the environmental conditions and the strategies. A larger scale study using original data would allow for fuller exploration of the relationship between external conditions, mental models, and management decisions to invest in knowledge acquisition strategies.

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Appendix A

Definitions for Types of Capacity Needed by Nonprofit Organizations as Identified by Key Authors

Author/Sponsor/Pub.Yr.	Type of Capacity	Definition/Emphasis
Letts, Ryan, and Grossman (1999)	Program delivery	Program knowledge, project management, budgeting, and cash management. Emphasis on program implementation efficacy and outcomes.
	Program expansion	Program delivery capacities + personnel, financial controls, strategic fundraising, and site training. Emphasis on organization, management, and sustainability.
	Adaptive	Program delivery capacities + innovativeness, responsiveness, motivation, learning, quality, and collaboration. Emphasis on organizational effectiveness and mission impact.
McKinsey & Co. / Venture Philanthropy Partners (2001)	Organizational	Pyramid of seven interconnected elements: aspirations, strategy, organizational skills, human resources, systems and infrastructure, organizational structure, and culture. Emphasis on self-assessment and strength building for effectiveness and social impact.
Ebrahim (2003)	Analytical and adaptive	Ability to reflect upon and respond to changes in the external and internal environment. Emphasis on learning and using knowledge to influence organizational practices.
Hall / Canadian Centre for Philanthropy (2003)	Human resources	Ability to develop human capital, the key element to developing all other capacities. Emphasis on core competencies, knowledge, motivation, and behaviors.
	Financial	Ability to develop and deploy financial capital. Emphasis on expenses, revenues, assets, and liabilities.
	Relationship and network	Ability to draw on relationships. Emphasis on clients, members, funders, partners, government, the media, corporations, volunteers, and the public.
	Infrastructure and process	Ability to deploy or rely on infrastructure, processes, and culture. Emphasis on products related to internal structure, information technology, and intellectual property.
	Planning and development	Planning, research, and development. Emphasis on strategic design re: mission, services and products, program design, and proposals.

(continued)

Definitions for Types of Capacity Needed by Nonprofit Organizations as Identified by Key Authors (continued)

Author/Sponsor/Pub.Yr.	Type of Capacity	Definition/Emphasis
Kibbe / The Foundation Center (2004)	Organizational	Relevant programs, policies and processes, assets and resources, stability, and skilled leaders. Emphasis on factors contributing to and sustaining organizational effectiveness over time. (Funders need to build their own capacity too.)
Light / Brookings (2004)	Organizational	Encompasses virtually everything an organization uses to accomplish its mission, from desks and chairs to programs and people. Input to organizational effectiveness.
	Programmatic	Ability to carry out primary value-creating charitable activities. Emphasis on creating value through mission fulfillment.
Sussman / Barr Foundation (2004)	Organizational	Ability to promote order and predictability through structure, functions, systems, procedures, and cultures. Emphasis on organizing and deploying resources efficiently and to promote stable operations.
	Adaptive	Ability to change in response to changed circumstances (survival) and in pursuit of enhanced results (creation). Emphasis on external focus, network connectedness, inquisitiveness, and innovation.
	Leadership	Ability of all organizational leaders to inspire, prioritize, make decisions, provide direction, and innovate. Emphasis on board development, executive leadership development, leadership transitions.
Connolly & York / The David and Lucile Packard Foundation (2003); Connolly / The James Irvine Foundation (2007)	Management	Ability to ensure the effective and efficient use of organizational resources. Emphasis on human resources development and management, internal communications, and financial management.
	Technical	Ability to implement all of the key organizational functions and deliver programs and services. Emphasis on service delivery, evaluation, outreach and advocacy, legal, fundraising, marketing and communications, earned income generation, accounting, facilities management, and technology.
	Adaptive	Ability to monitor, assess, respond to, and stimulate internal and external changes. Emphasis on needs assessment, organizational assessment, program evaluation, knowledge management, planning, and collaborations and partnerships.

Appendix B

ORIGINAL STUDY RECRUITMENT LETTER

DATE

NAME

ADDRESS

CITY, STATE, ZIP

Dear:

The Centers for Disease Control and Prevention (CDC) funded eight National Academic Centers of Excellence (ACE) on Youth Violence Prevention in September 2005. The Centers were created to connect academic and community resources to study and foster innovative and robust strategies to prevent youth violence. Virginia Commonwealth University's Clark Hill Institute for Positive Youth Development is one of those Centers.

The Institute is conducting a research study to better understand the implementation of youth violence prevention programming in selected urban cities. The research team is working to discover factors that may hinder or support policy makers and service providers as they address youth violence within communities. We will gather this information through a series of in-person and phone interviews with key decision makers from a range of public and private organizations during mid October. The interviews will lead to a better understanding of your perspectives on youth challenges in your communities.

After an extensive review of youth services, providers and infrastructure in [your city], we would like to invite you to participate in an interview for the research project. We believe your perspectives would be very valuable in assisting us in understanding the supports and challenges administrators face in implementing programs for youth. A member of the research team will call you within the upcoming weeks to provide you with more details on our research efforts and to answer any questions you have about this project.

If you have any questions or would like to contact us, I can be reached at (804) 828-1203 or via email kallison@saturn.vcu.edu. We look forward to talking to you in the near future.

Sincerely,

Kevin Allison, PhD.
Director of Community Mobilization

Appendix C

ORIGINAL STUDY PRE-INTERVIEW SCRIPT

Barriers and Support for Community Level Youth Violence Prevention PRE-INTERVIEW SCRIPT

My name is [NAME] of Virginia Commonwealth University, Clark-Hill Institute for Positive Youth Development in Richmond, VA. We are one of eight Academic Centers for Excellence for youth violence prevention funded through the Centers for Diseases Control.

I am following up on a letter you may have received regarding our efforts to better understand your community's youth programs, particularly violence prevention services. We are conducting interviews with a range of public and private organizations (such as parks and recreation, mental health, police, local philanthropy, nonprofit youth service providers, public health department, public schools, sports leagues, and city government) serving youth in [CITY]. The interviews are designed to help us better understand your perspectives on youth challenges in your community.

The study will be conducted in several cities. We have identified individuals and organizations who could assist us in better understand supports and challenges to effective programming for youth. We are especially looking for decision makers who can give us their broad perspectives on how youth programs are working in their communities.

We are hoping you would be willing to participate in this interview.

IF PERSON RESPONDS 'YES' TO PARTICIPATING IN INTERVIEW

Great! We will conduct in-persons interviews in [CITY] on the [DATES] between the times of [TIMES]. Each interview should last about an hour (anywhere between 40 – 70 minutes). Which day and time is most convenient for you? Would you like to meet in your office, or at another location within [NAME OF ORGANIZATION]?

If person indicates that h/she would like to meet somewhere other than office/agency

Where would you like to meet?

I will send you an abbreviated list of interview questions to give you a better idea of what to expect during the interview. You should receive that abbreviated list of questions within a couple of weeks. Would you prefer for us to fax, email or mail you this list?

Depending on indicated preference for survey delivery

What is your [email address] [fax number] [mailing address]?

Again, your interview is scheduled for [DAY, TIME] at [LOCATION]. You will receive a confirmation call one – to – two days prior to the interview. During this call, we will tell you which person on the research team will conduct your interview.

Thank you again for your willingness to help us. Do you have any questions? Should you need to contact me in the future, I can be reached at [NUMBER].

I look forward to meeting you. Goodbye.

Appendix D

ORIGINAL STUDY INTERVIEW QUESTIONS

IF PERSON INDICATES THAT H/SHE IS NOT THE 'RIGHT PERSON'

Who would you recommend that we contact about the possibility of an interview? *Request person's name and position.* May I have the telephone number and email for [NAME]? I will contact [NAME] either today or tomorrow to inform them about the project and invite them to participate in an interview. May I use your name as a reference when we contact [NAME]?

Thank you for your recommendations and your support of this project.

Have a good day. Goodbye.

If no recommendations are provided

Thank you for your time. Goodbye.

IF PERSON DECLINES PARTICIPATION IN THE INTERVIEW

Who in your organization do you think may be an appropriate persons that we contact for an interview? *Request person's name and position.* May I have the telephone number and email for [NAME]? I will contact [NAME] either today or tomorrow to inform them about the project and invite them to participate in an interview. May I use your name as a reference when we contact [NAME]?

If no recommendations within the agency are provided

Who else do you think can help us get a better understanding of youth violence, the problems associated with youth violence and ways to address these issues? Is there anyone you would particularly recommend that we talk to?

Do you have any questions about this project? Should you need to contact me in the future, I can be reached at [NUMBER].

Thank you for your recommendations and your support. Goodbye.

If no recommendations are provided

Thank you for your time. Goodbye.

**Barriers and Support for Community Level Youth Violence Prevention
INTERVIEW QUESTIONS**

Interview Script

My name is NAME of Virginia Commonwealth University, Clark-Hill Institute for Positive Youth Development in Richmond, VA. We are one of eight Academic Centers for Excellence for Youth Violence Prevention funded through the Centers for Diseases Control.

I am working with Dr. Kevin Allison on a project to better understand your community's prevention work targeting youth violence. We are conducting interviews with a range of public and private organizations such as parks and recreation, mental health, police, local philanthropy, nonprofit youth service providers, public health department, public schools, sports leagues, and city government serving youth in CITY. We want to note that in this interview we want to focus specifically on prevention efforts, that is work that is designed to prevent the likelihood of youth engaging in or being victims of violence.

The interviews are designed to help us better understand your perspectives on youth challenges in your community; what work is going on in this area; and what recommendations you may have for the improvement of existing youth prevention work, and what may assist in removing challenges to prevention services for young people. The interview will last about one hour.

[Do you have any questions before we begin?]

Thank you for agreeing to participate in this interview. Before we begin the formal interview, I would like to ask you a few questions about your organizational background and professional work experience.

1. What is your current position/title within your organization?
2. How long have you been in your current position?
3. Briefly describe your position? (What kind of work do you do?)
4. How long you been doing this type of work?
5. How long have you been with the [AGENCY/ORGANIZATION]?
6. How long has your agency been in existence?
7. What kind of work does the organization do?
8. How long have you been residing in the area?

Now we will begin with questions that focus on issues relevant to the prevention of youth violence in your community.

Appendix E

Codebook: Coding Guidance by Dimension

Dimension	Description	Examples of Issue/Idea Areas to Code
Environmental conditions	Environmental conditions are factors external to the organization that drive internal <i>incentives</i> for developing absorptive capacity for external knowledge. The “environment” is the operating environment that is outside the boundaries of the organization and may include subsectors activity in such areas as regulation, government, customers or clients, competitors, international, socio-cultural influences.	<ul style="list-style-type: none"> • Laws, legislation, or mandates that prescribe services/treatments/programs or service populations, such as being required to serve only Medicaid reimbursable clients or provide service to juveniles convicted of certain offenses • Political officials’ acts, such as introducing or blocking legislation, establishing certain issue areas as priorities • Community, customer or client actions, such as lobbying elected officials about a particular incident/issue or demonstrating leadership on a particular issue • Local, state, or national economy influences such as reductions or infusions of funding • Cultural norms, such as a pro-gun atmosphere
Learning relationships	Learning relationships drive the <i>ease</i> of understanding external knowledge, especially complex or tacit knowledge that is to be acquired and applied. Tacit knowledge is knowledge that is difficult to capture and convey in written rules and procedures. Learning relationships are partnerships with people or organizations that hold specialized knowledge such universities, think tanks, research institutes, and professional organizations.	<ul style="list-style-type: none"> • Research partnerships, such as arrangements with universities in which research questions are co-defined and knowledge is exchanged between partners • Participation in national conferences, such as presenting or co-presenting professional papers
Knowledge characteristics	Knowledge characteristics drive the <i>depth and breadth</i> of understanding external knowledge. This includes specialized professional knowledge held by members of an organization and knowledge in an area that overlaps such as common issue or joint problem for solving.	<ul style="list-style-type: none"> • Academic degrees, such as bachelor’s, master’s, or doctorates • Professional affiliations, such as with national, state, or local organizations • Professional certifications, such as in violence prevention or crime prevention

Dimension	Description	Examples of Issue/Idea Areas to Code
Mental models	Mental models drive the <i>creativity</i> of recognition, assimilation, and application of external knowledge. These models are an individual's construction or cognitive maps and interpretations of how their organization works and how the organization interacts with its environment.	<ul style="list-style-type: none"> • Expectations or aspirations, such as what can be achieved • Missions or philosophies, such as thoughts about what is within scope of the individual's or organization's responsibility • Working definition of how to be effective, such as what it takes (e.g., level of effort, approach) to get something accomplished • Personal or organizational values, such as descriptions of what is most important to the "self" (individual) or what is most valued by the organization
Systems, structures, processes	Systems (e.g., technologies, routines), structures (e.g., distribution of human resources, compensation and rewards), and processes (e.g., production or communications mechanisms) drive the <i>efficiency</i> and <i>effectiveness</i> of knowledge assimilation and application. These include written procedures, formal processes, and internal infrastructure supports for knowledge related activities.	<ul style="list-style-type: none"> • Research support, such as in-house staff • Communications tools, such as internal circulation of new developments in relevant field(s) • Data systems, such as an organization's knowledge management systems that hold research products/abstracts or client data systems
Firm strategies	Firm strategies drive the <i>focus</i> of recognition and understanding, assimilation and application of external knowledge. This includes an agency or organization's internal plans, priorities, or initiatives that provide direction for their future knowledge acquisition strategies.	<ul style="list-style-type: none"> • Information on an agency's existing programs or services that illustrates or describes how a program or service was selected, such as through needs assessments, research, community engagement activities • Short-term or long-term internal plans for new programs or services that illustrate or describe how a program or service will develop or be developed by the organization, what issue/problem it addresses, and/or how the problem/issue will be addressed, what steps will be taken by internal staff or by the organization as a whole.

Appendix F

Description of Localities in 2008

Variable	Richmond	Greater Richmond	Charlotte	Mecklenburg Co.	Jacksonville	Duval Co.
Form of government	Mayor/ City Council	Independent Cities and Counties	Mayor/ City Council	Board of County Commissioners	Mayor/ City Council	Consolidated w/ Jacksonville City
Population	202,002	1,215,013	687, 456	890,515	807,815	850,962
Median income	\$36,157	\$41,021	\$52,530	\$57,033	\$50,476	\$49,175
Below poverty level	22.9%	—	12.4%	10.5%	12.6%	11.7%
Unemployment	9.7%	—	9.7%	11.1%	11.3%	11.2%
Median age	33.9	37.1	32.7	33.1	33.8	34.1
Education level at age 25						
High school or less	75.2%	85.2%	84.9%	86.2%	82.3%	69.6%
Ethnicity/race						
Black	57.2%	30%	32.7%	27.9%	29.0%	27.8%
White non-Hispanic	37.7%	66%	55.1%	61.1%	62.2%	63.5%
Hispanic	2.6%	2.6%	7.4%	6.5%	4.2%	4.1%
Other	3.07%	4%	5.6%	3.0%	4.8%	5.4%
Female	53.5%	51%	51%	49.1%	51.6%	51.5%
Married females	25.6%	—	43.9%	46.9%	45.3%	45.2%
Non-marital births	63.7%	—	32.6%	31.2%	34.7%	34.3%
Average household	2.2	—	2.5	2.5	2.5	2.5

Source: U.S. Census Bureau, American FactFinder 2005-2009 American Community Survey <http://factfinder.census.gov>

Appendix G

*Organizational Fields and Organizational Types by Interview
Transcript Number by City for Study Sample*

City	Interview Number	Field	Type of Organization
Charlotte	8	Public health	Public
	23	Law enforcement	Public
	24	Education	Public
	25	Mental health	Public
	27	Health care	Public/Private
	28	Education	Public
	29	Social services	Public
	30	Recreation	Nonprofit
	31	Health care	Public/Private
	37	Recreation	Public
Jacksonville	9	Social services	Public
	10	Juvenile justice	Private
	11	Social services	Nonprofit
	12	Juvenile justice	Public
	13	Arts and culture	Nonprofit
	17	Public health	Public
	18	Juvenile justice	Public
	21	Juvenile justice	Public
	36	Recreation	Nonprofit
Richmond	1	Law enforcement	Public
	2	Social services	Nonprofit
	5	Recreation	Public
	6	Recreation	Nonprofit
	7	Juvenile justice	Public
	32	Public health	Public
	33	Social services	Nonprofit
	34	Art and culture	Nonprofit
	38	Mental health	Public/Private

Appendix H

Description of Key Informants

City	Interview Number	Field	Years in Position	Years in Organization
Charlotte	8	Public health	4.00	—
	23	Law enforcement	0.17	—
	24	Education	8.00	8.00
	25	Mental health	6.50	6.50
	27	Health care	13.00	13.00
	28	Education	1.00	22.00
	29	Social services	0.75	16.00
	30	Recreation	5.00	13.00
	31	Health care	5.00	10.00
	37	Recreation	1.08	30.50
Average years in position/organization			4.45	14.88
Jacksonville	9	Social services	0.58	20.00
	10	Juvenile justice	7.00	7.00
	11	Social services	6.00	6.50
	12	Juvenile justice	8.00	20.00
	13	Arts and culture	4.00	1.50
	17	Public health	5.00	5.00
	18	Juvenile justice	2.50	18.00
	21	Juvenile justice	2.00	—
	36	Recreation	2.00	5.00
Average years in position/organization			4.12	10.38
Richmond	1	Law enforcement	0.33	7.00
	2	Social services	2.50	2.50
	5	Recreation	1.33	3.20
	6	Recreation	0.67	8.00
	7	Juvenile justice	3.00	5.50
	32	Public health	2.00	27.00
	33	Social services	0.25	.25
	34	Arts and culture	13.00	13.00
	38	Mental health	6.00	8.00
Average years in position/organization			3.23	8.27

Vita

Linda Sue Birtley of Beaverdam, Virginia was born on May 30, 1954 in Chicago, Illinois and is a United States citizen. She graduated from Webster Groves High School in Webster Groves, Missouri in 1972. She received both her Bachelor of Science in Administration of Justice and her Master of Arts in Sociology from the University of Missouri at St. Louis in 1977 and 1982, respectively. The graduate experience in sociology was a predoctoral trainee fellowship in the qualitative evaluation of crime and delinquency programs funded by the National Institute of Mental Health. Later, Linda received a Master of Arts in Library and Information Science from Dominican University, formerly Rosary College, in 1992. In 2000, she earned a certificate in Non-Profit Business & Management from Johns Hopkins University. Linda's academic performance led to recognition by three national honor societies: Beta Phi Mu in 1992, Pi Alpha Alpha in 2006, and Phi Kappa Phi in 2011.

Linda worked on research and evaluation projects at the University of Illinois at Chicago in 1979-1980, the Chicago Crime Commission in 1981-1982, the Virginia Criminal Sentencing Commission in 1997-1998, and Virginia Commonwealth University (VCU) in 2001-present. The majority of her work with the VCU's Survey and Evaluation Research Laboratory was with community partners in 2001-2009. She also worked on data and information systems projects in the private sector at Jenner & Block Law Firm in 1982-1986, Santa Fe Southern Pacific Corporation in 1986-1987, and Hinshaw & Culbertson Law Firm in 1987-1994. For the Justice Research and Statistics Association (1999-2001) and DataShare Metro Richmond based at VCU, she co-developed web-based systems to facilitate the use of data for decision making by government and nonprofit staff. Linda currently works at Virginia Commonwealth University on institutional accreditation and program evaluation. Prior to acceptance in the Public Policy and Administration doctoral program, she was a devoted adoption volunteer and board member in the Hanover Humane Society based in Ashland, Virginia.